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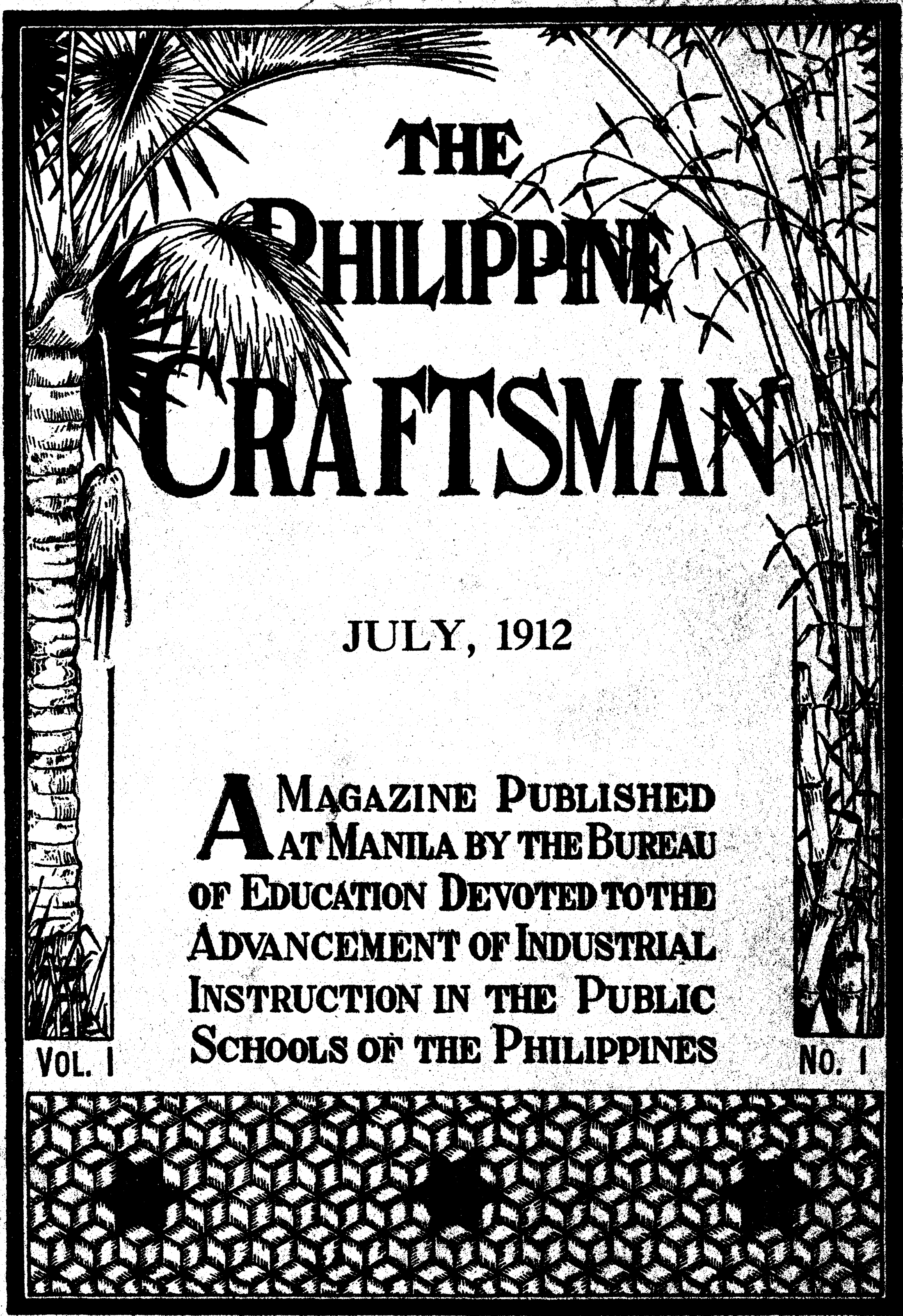

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JULY, 1912

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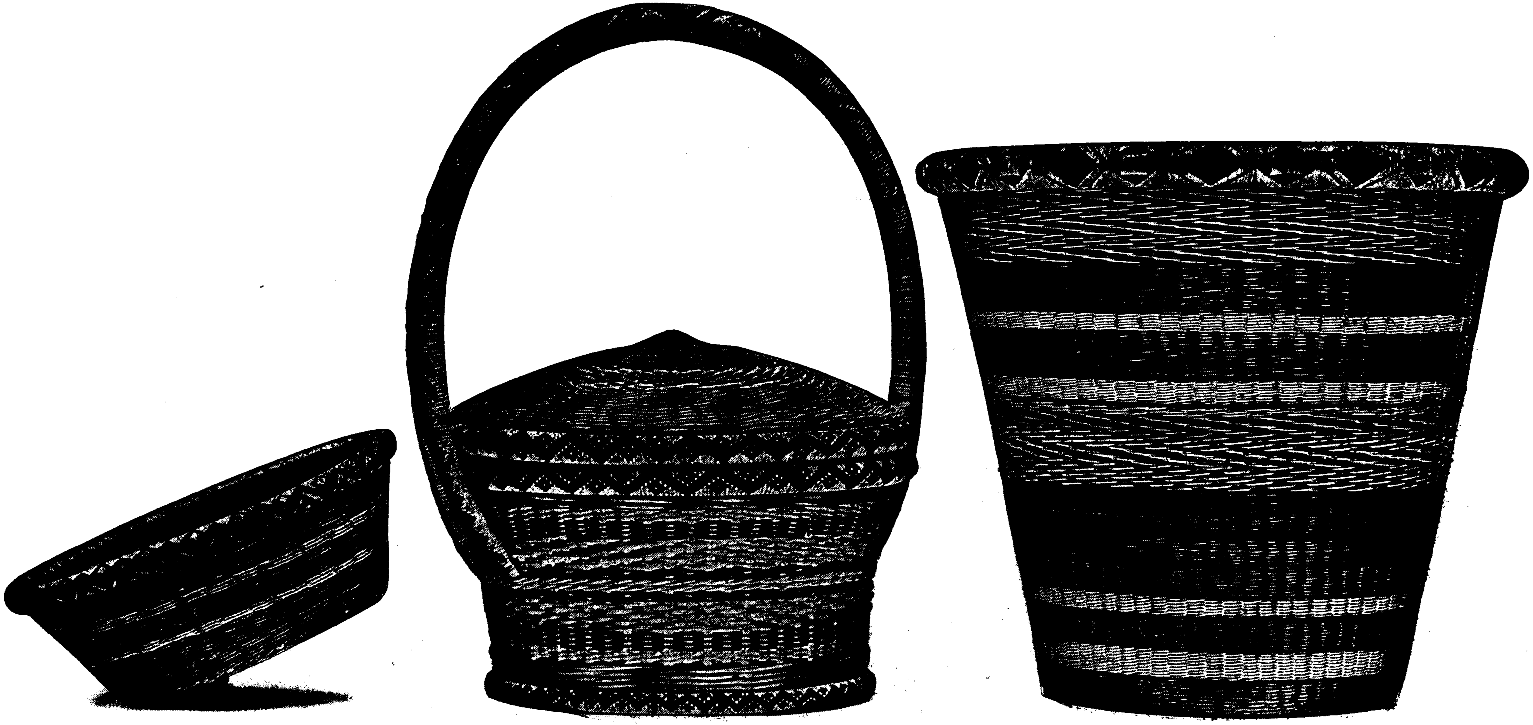

THREE STANDARD TYPES OF POLANGUI BASKETS.

The Philippine Craftsman

VOL. I MANILA, JULY, 1912 No. 1

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No man is born into
the world whose work
Is not born with him;
there is always work,
And tools to work withal, for those who will;
And blessed are the horny
hands of toil! — *LOWELL*.

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The Philippine Craftsman

VOL. I JULY, 1912 No. 1

PHILIPPINE BASKETS.

Prepared by HUGO H. MILLER, JOHN F. MINIER, H. E. CUTLER, THEODORE MULLER, L. P. WILLIS, U. S. ANDES, and others, Bureau of Education.

THE purpose of this article is to give an idea of what has been done and what is being done with basketry in the schools of the Philippines, in order that the materials and technique of the various types which have been originated or evolved in certain schools may be understood throughout the Islands, and that the best of these may be standardized in shape, design, and workmanship. Before discussing these, however, it will be well to note briefly the baskets commonly made and used throughout the Archipelago.

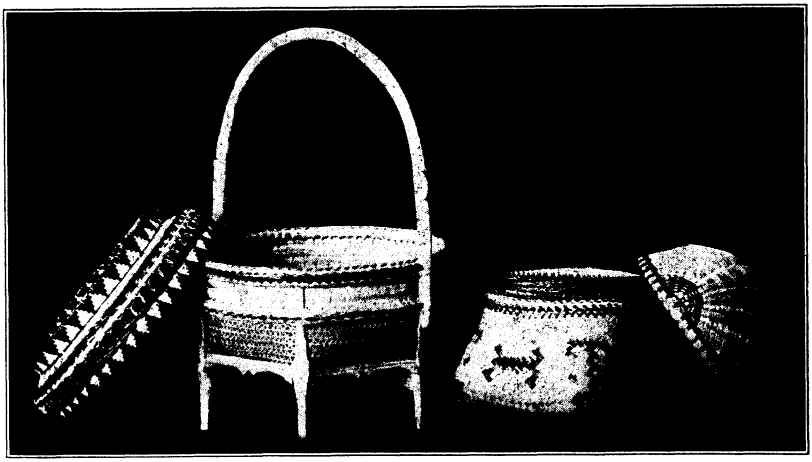

Plate I. Common bamboo baskets, decorated.

Practically every non-Christian tribe in the Philippines has one or more types of baskets peculiar to it which are of interest but which can not be taken up in this article. Some of these, such as certain Igorot, Mangyan, and Moro types, show possibilities, but their development can best be left to the schools and peoples that have originated them.

Common bamboo baskets are of great economic importance to the Christian Filipinos. The winnowing, rice, and betel baskets are unadorned, but each can be made very attractive by means of nito or irao decorations, and with slight changes in form may serve other purposes, as trays, work baskets, and button boxes.

BASKET MATERIALS.

Baskets were among the first industrial articles made in Philippine schools. Naturally, those produced followed closely the shapes of the common bamboo and rattan baskets found in the immediate locality. A few have been evolved from these beginnings. But most baskets, the making of which is now taught in Philippine schools, were originated as the result of effort to obtain material which would not break in turning sharp corners, as does bamboo, and would be stiffer and cheaper than rattan. Still other types now made in our schools are the results of adaptations of local materials to basket forms originated in other countries. Thus it can be seen how important a part the basket materials available here have played in determining the types and forms which have been originated or evolved. The variety of basket materials found in the Islands is so great that the subject cannot be treated exhaustively here and hence only the most important are briefly discussed. It is believed that from the descriptions and illustrations given it will be possible to understand the preparation of these materials and to identify the plants from which they are obtained. Speed in the preparation of materials is of the utmost importance in basketry and a large field is open for the working out of new methods and devices.

PALMS.

Materials derived from palms are most important in basketry taught in Philippine schools. They are obtained from the petiole, the midrib and the unopened leaf.

Tipon-tipon.—This palm[1] furnishes the finest basket material that has so far been found in the Philippines. The plant is one of the smaller palms. It reaches a height of about 6 meters and has a short trunk but a few centimeters in diameter. It may be compared in a very rough way to the nipa palm, if it is borne in mind that the petioles are more slender and are covered with a fuzz. The leaflets are short and narrow, and the whole plant presents a more graceful appearance than the nipa. Unlike the nipa palm, it is not found in swamps but should be looked for in thickets. The lower part of the petiole is from two to three meters long and free from leaflets, thus doing away with the waste incident to palms having leaves on both sides of most of the petiole. Of such, only the front and back parts can be used.

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[1] *Arenga mindorensis*, tipon-tipon, bilis (Albay), belis (Sorsogon), gayumaka (Laguna), abigui (Camarines), romaka (Camarines, Albay), dumayaka (Batangas, Tayabas). Also *A. tremula*.

In basketry work, the outer part of the petiole is used. This is prepared by dividing it into halves, quarters, and eighths and removing the soft interior. The inside is still further shaved down until the splint is of the desired thickness, and has the required width and length. The epidermis has a grayish-green color, finely speckled and very pretty in appearance. Underneath this there is an inner tissue (cortex), which varies in shade from light to dark brown according to the age of the petiole, and which is exposed by scraping away the green epidermis. The beauty of Polangui baskets depends upon the green splints and the shades of brown thus produced.

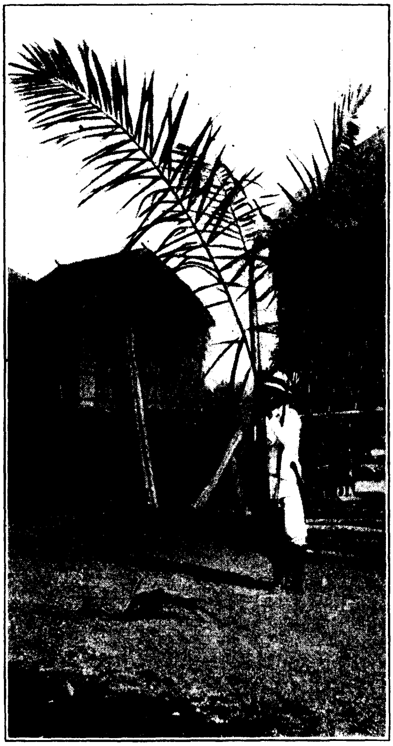

Plate II. Tipon-tipon palm.

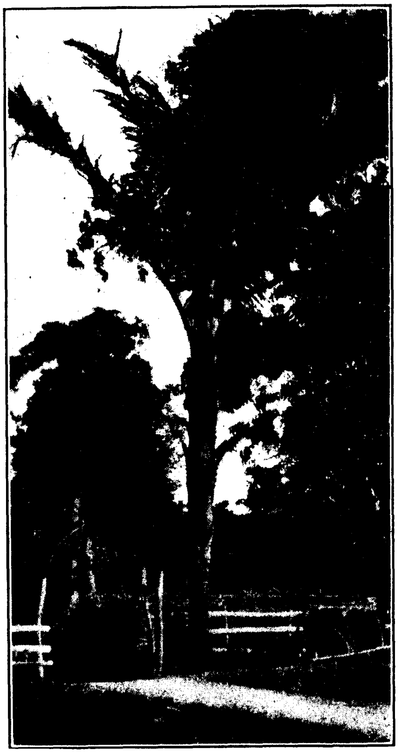

Plate III. The sugar palm.

The sugar palm.—This palm [2] sometimes attains a height of 12 meters. The petiole is remarkably long, the base surrounded by coarse, black, horsehair-like, matted sheaths, which furnish the cabonegro fiber used for rope. The palm fruits profusely. On account of the position of the leaflets only the front and back parts of the petiole can be utilized. A very dark brown material can be obtained from this palm, but the splints are not so tough as those from tipon-tipon.

The midribs, when fresh and well stripped of their leaflets, are woven into trays and baskets.

The coconut palm.—The splints from the petiole of the coconut palm [3] have fewer shades than those from tipon-tipon but are quite satisfactory for spokes. The midrib of the leaflets furnishes a good material for certain types of trays and baskets.

The nipa palm.—Nipa palms [4] occur along tidal streams throughout the Philippines. Splints are prepared from the petioles in the same way as those of other palms, but they are entirely unsuited for spokes, being too brittle. The middle-aged petioles, however, may be utilized for weavers. The colors are not very satisfactory.

The buri palm.—In basketry, the buri palm [5] is important principally because of its "raffia," midribs and petioles.

Buri raffia is nothing more than the thin skin carefully stripped from the leaf blades. It is not every buri leaf that will give up its raffia. In fact none of the leaves that have opened up to the light are suitable for raffia since on these the skin will not separate from the blade. Unopened leaves are the only ones from which raffia may be obtained. It has been found that the raffia strips with less difficulty from the blades of the younger trees; yet this material, being necessarily shorter than that obtained from the older trees, is less desirable for general purposes.

The raffia should be stripped from the leaf blades immediately after the leaf has been cut from the trees. If permitted to remain longer, it is very apt to strip with difficulty,

---

[2] *Arenga saccharifera,* kaong (Cavite, Laguna), irok (Mindoro, Cavite, Zambales), hibiok (Capiz, Iloilo, Occ. Negros), hidyok (Albay), hidiok (Antique, Capiz, Tablas), hiduik (Capiz), palma criste (Capiz), habiok (Capiz), igok (Antique), onao (Surigao), batbat (Mindoro), bagot-bat (Or. Negros), ebiok (Bohol), idiok (Or. Negros) idyok (Capiz), yunot (Batangas), yonot (Cavite).

[3] *Cocos nucifera.*

[4] *Nipa fructicans.*

[5] *Corypha elata,* buli (Filipino), silag (Ilocano), ebus (Pampango), bagatay (Nueva Vizcaya).

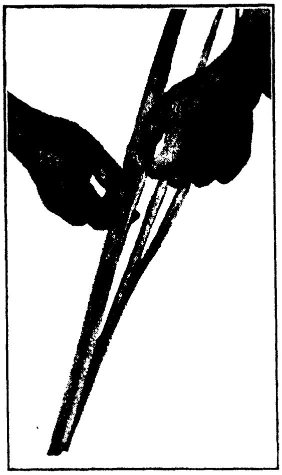

Plate IV. Stripping buri raffia.

much of it being broken and rendered useless. The stripper selects a leaf-blade and cuts away the midrib with a knife. He takes one-half of the leaf-blade and first proceeds to take the raffia from the top or outside. To do this, the end of the leaflet is bent back about 2 inches from the point and placed upon the knee, the base of the thumb of the left hand bearing down upon it. The large end of the leaf is then grasped by the right hand and pulled so that the leaf is straightened out and a sort of blister formed at the crease. The base of the leaf is placed firmly under the foot so that it will be held tightly. The skin is picked up at the blister with the right hand. The remaining portion of the leaf is grasped with the left hand and pulled taut. With a little care the cuticle can be stripped off by pulling it with the right hand. Care must be taken, however, that the leaf be kept taut, or the skin will tear into several pieces. If the whitest material is desired the raffia obtained must be freed of the pulp which still adheres to it by being scraped with a knife. It is immediately placed in the sun for three hours. If it becomes wet, as from rain or dew, it will turn a dark shade.

In practice the inner skin is seldom used for raffia. It can be prepared by scraping away the pulp with a sharp knife, a process which requires considerably more time than that needed in preparing the outside skin. The inner skin is stronger than the outer, but it is not so light in color and must not be used in combination with it, if a uniform effect is desired.

Buri raffia is easily manipulated by little hands and is consequently an excellent material for use by young children. Another notable quality is the ease with which it is dyed and the beautiful tones which are obtained on it. In the latter respect it equals abaca and is at the same time much more easily colored. It is a very good material for coiled baskets. It should be dampened before being used.

The petiole of the palm yields unsatisfactory splints. The midribs are very pliable and should receive more attention as a basket material. Buri straw, which is made from the leaf blades, is also used in basketry.

Minor palms.—Among the minor palms whose petioles yield

Plate V. Banban.

basket materials may be mentioned saguise[6] and fishtail palms.[7] The former resembles tipon-tipon but the petiole is deeply grooved. It yields a material, white in color, good for weavers but not for spokes. The fishtail palms are so called on account of their leaflets, which are shaped somewhat like a fish's tail. The petioles yield splints similar to those of tipon-tipon.

BANBAN.

Banban[8] is very common and is widely distributed in the Philippines. It is generally found growing along the sides of streams or in moist dense forests. Varying with the locality and richness of the soil, it grows to be from four to five meters high.

The plant generally has a solitary stem which about 2 meters from the ground divides into three or more branches, each of which divides and subdivides like the main stem. The splints are prepared soon after the plant is cut in the same way as those from palm petioles. Green and brown tones which are very important in basketry are obtained from banban.

RATTANS.

There are probably a great number of species of these palms

Plate VI. Air roots in the forest.

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[6] *Heterospatha elata*, sagise or saguisi (Bohol), taguisi (Albay).

[7] *Caryota* spp., taguipan (Tagalog), hagol (Sorsogon, Albay), pugahan (Sorsogon).

[8] *Donax cannaeformis*, banban (Filipino), darumaka (Zambales, Ilocano in N. Vizcaya), banay (Ibanag), bamban (Sorsogon, Am. Camarines, Cebu), daromaka (Ilocano in Tarlac), langkuas (Ilocano), barasbarasan (Tagalog), aratan (Gaddan in N. Vizcaya), mattapal (Isinay), mamban (Leyte).

in the Philippines, but many have not as yet been determined, as their twining, climbing, spiny habits make collection of fruit extremely difficult. If the prepared material is to be used for rims it is only necessary to divide it into halves. If it is to be utilized for spokes the whole stem is divided into parts and the core is removed. If the material is to be used for weavers these strips are pulled through a "batacan," which is a piece of tin plate or zinc in which holes have been punched. The material will be fine or coarse, depending upon the size of the openings.

AIR ROOTS.

What the Filipinos call "lukmoy" or "tibatib" in Tagalog and "amlong" or "bakog" in Bicol is a general name applied to most climbing plants of the family *Araceae*. These terms are also sometimes used to designate particular species. The plants find their natural habitat in damp forests where the full light of the sun never strikes the ground and where the trees are so close together that the moisture in the air is sufficient to develop air roots. Bakog grows on trees, sending out small roots which hold it fast to the trunk. At times it may be found clinging to cliffs which are exposed to humid conditions. However, it is in no sense a parasite, as it does not obtain any nourishment from the host upon which it lives. It usually starts its growth from the ground, developing its own root system and finding its own nourishment. Later, when these roots are not sufficient to nourish the plant, it begins to send out air roots, which furnish additional food by taking in water that drops from the branches and trunks above them. They in no way anchor or hold up the plant from which they grow. In the forest these roots are from 50 to 100 feet long. In collecting this material, the gatherer will be able to obtain pieces of roots ranging in length from a few feet to 50 feet or more, depending upon his luck and the strength of his pull.

Naturally, the middle-aged roots produce the best material. In the very young, the inner part or central cylinder is too soft to permit of its use as an industrial material. Old roots may be utilized although they are not so pliable as middle-aged ones. The collector may remove this central cylinder, which is the useful portion, by taking hold of it firmly and pulling down so that it breaks through the surrounding tissue. This requires experience. A quicker method is to make a circular incision around the cortex or twist the latter about 2 cm. from the end of the root. The cylinder can then be pulled down so that it emerges from one side only, thus breaking the cortex about 1 dm. in length. Then, with the root held firmly against the stem of a small tree trunk, the thumb of the left hand is interposed from above between the cylinder and the cortex, the fingers grasping the trunk of the tree. With the right hand the cylinder is pulled toward the body; the cortex falls to the ground. As soon as a piece of cylinder of sufficient length has been pulled out, it may be wound around the hand to allow a firmer grip in pulling. The process is best performed in the field immediately after collecting, as the cylinder then pulls out easily from the cortex.

Plate VII. A black amlong.

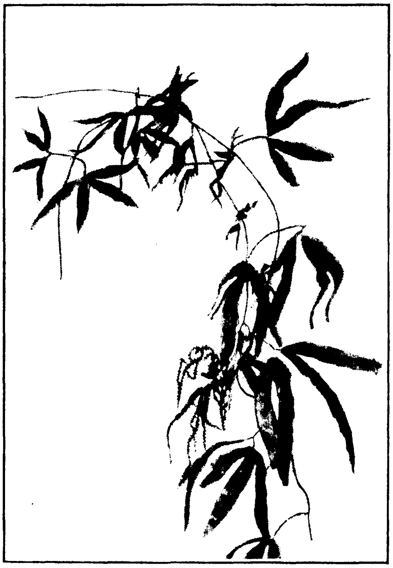

Plate VIII. Lygodium circinnatum, the most common nito.

It can not be said that bakog is found in unlimited quantity. By careful use, the supply will probably last a number of years. In general the people of the Philippines will have to look to the wild tribes to collect and bring in this material just as they now gather and trade rattan.

There are many genera and species of these plants and the color and texture of the material yielded by their air roots differ. From the color of the materials they yield, they may be divided roughly into white, brown and black air roots. The white seems to be the least abundant, the brown and black being found in largest quantities. Colored material may be whitened by putting it in a solution of sodium peroxide made in the proportion of two spoonfuls of peroxide to about 15 liters of water. It must be kept in a glass vessel. The bakog should be allowed to remain in the solution for twenty-four hours, then washed in clear fresh water and hung out to dry in the sun for a day. This procedure should be repeated three or four times, using each time a fresh solution of the peroxide. A stronger mixture is quicker but not so satisfactory.

Pomago.—This vine[9] can be used for most of the purposes for which air roots are employed. It has several advantages over the latter. In regions where it occurs, it is often found in abundance near the towns in thickets or along the banks of streams and irrigation ditches. There is no reason why it should not be cultivated. The leaves are smooth and velvety to the touch, in shape like a conventional heart, dark green in color on the upper surface and grayish green on the lower.

The material is prepared by boiling the stem in water for about two hours, the best being obtained from that portion of the stem below the first branch. The outside layer and its adhering tissue is then easily separated from the inner part. The prepared material is yellowish white in color and from 2.5 to 3.5 mm. in diameter. It is smoothed by the use of sandpaper.

BAMBOOS.

There are in the Philippines several genera and many species of the grasses known as bamboo. Of these the most important and the most generally distributed is the *Bambusa blumeana* or spiny bamboo. The distinctive feature of this bamboo is its spines, which are not found on any other. Certain *Schizostachyum* spp. also yield excellent basket materials, but they are not so widely distributed. These species are noticeable on account of their long, straight internodes. They often have thin walls.

NITO.

The term "nito" is applied to all "climbing" ferns (*Lygodium* spp.) in the Philippines. As they get older, they lose many of their leaves and the stems become discolored, the change being from green to light-brown, brown, dark-brown, black. The material is easily prepared by dividing the stem into halves and quarters and cleaning away the inside part. It needs no further manipulation. The tensile strength of nito is not great;

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[9] *Pericampylus incanus,* pomago (Sorsogon, Camarines, Albay), silong pugo (Batangas), tugui-tuguian (Mindoro).

as a decorative material it finds its proper use. Its color may be greenish white, brown or black. The lighter stems can be given an even black color by burying them in mud for three to six days. Mature stems must be used.

AN ORCHID.

Irao is an orchid[10] that furnishes a very bright yellow decorative basket material. It may be briefly described as an orchid well distributed and well known throughout the Philippines, with leaf stalks about 60 cm. long, sometimes longer, bulbous at the base for a distance of about 20 cm. The joints of the leaf-stalk are about 1.5 cm. apart. Only the slender, partially yellow stalks are employed and these may be made an even, bright yellow color by putting them for a short time in boiling water or in cold water to which a little vinegar has been added. Exposing the stalks to the sun will produce the same results. The yellow stalks found on living plants are dead and should not be used, as they disintegrate.

Plate IXa. Preparing lupis—the first step.

ABACÁ.

The stripping of abacá fiber and the uses of the fiber are too well understood in the Philippines to be discussed here. The fiber is obtained from the outside skin of the petiole. Abacá lupis is essentially the unstripped outer skin of the petiole. Briefly, the process of preparing the material consists of "breaking" the fresh petiole to reduce its stiffness, of removing the outer skin and of reducing this to strips as shown in Plate IX. By quickly drying these in the sun a white lupis is made. Brown and black lupis are obtained from the dried petioles which have previously been soaked in water.

---

[10] *Dendrobium* spp., irao (Sorsogon, Camarines, Albay), Karulay (Isabela), sangumay (Laguna), karamosi (Ilocos Sur), erao (Camarines), karonsi (Ilocos Norte), karousi (Cagayan), magimpao (Bohol), magimpal (Bohol).

PANDANS.

Karagumoy (*Pandanus simplex*), and *P. utilissimus* are so far the only pandans extensively used for baskets. It is very probable, however, that other pandans with thick leaves will be found just as serviceable. Karagumoy is limited in distribution to the Bicol provinces and *P. utilissimus* to the highlands of southwestern Luzon.

In preparing the material, the spines and midribs are removed and the leaves divided into strips of the desired width. They are then dried in the sun for a few hours and drawn over a piece of bamboo to make them more supple and smooth.

Plate IXb. Plate IXc.

Further steps in the preparation of lupis.

SEDGES AND RUSHES.

At present, the plants known as tikug[11] and balangot[12] are used in the Philippines as foundations for coiled baskets. The former is practically confined to the Visayas. The latter is found all over the Islands. The rush *Juncus effusus* of the Mountain Province is also suitable for this purpose.

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[11] *Fimbristylis utilis*, sudsud, anihiwan (Mindanao), muto (Pampango).

[12] *Cyperus malaccensis*.

POLANGUI BASKETS.

Polangui baskets are those ribbed baskets the sides and bottoms of which are made from the hard outer part of palm stems and banban, the cores of air roots and certain vines, and nito. The rims and handles are almost invariably of rattan wound with air roots, split rattan, or vines, and decorated with interwoven nito or irao, or both.

The manner in which these materials came to be used is interesting. The children in the public schools of Polangui, Albay, had been making bamboo baskets, as that was supposed to be the cheapest material and the one easiest of access. But as the ribs always broke at any point where they were sharply bent, teachers and pupils were urged to find some cheap material that would not have this fault. They began looking about them and asked the older people about the matter. As a result certain air roots which had previously been employed as a tying material were found satisfactory for basket making. Banban was also brought into school use. When banban became scarce, it was found that palm petioles could be substituted for it. Polangui baskets have therefore derived their name from this town. Baskets of this type were gotten out in 1910 by a Filipino teacher, Pedro Espinas.

The designs of Polangui baskets result from the use of natural colored materials. From the hard outer part of banban and palm stems, a variety of pale greens, grays and browns is obtained. If not scraped the materials gradually assume a pale green or gray upon becoming dry. Scraped banban usually produces a lighter brown than the palm splints. Tipon-tipon will give a greater variety of browns than any other palm known. The scraped sugar palm splints are sometimes almost black. Coconut petioles produce light brown shades. The fish-tail palm also produces brown, and taguisi gives white splints. There is little difference in the shades of green found in the dried splints. Nito is employed rather sparingly on the sides of baskets.

In most Polangui baskets the weave commonly known as pairing is employed, though they may start with a single weave. Triple and quadruple weaves are used at the top and bottom of the sides, and on the covers. The triple weave is usually in spiral, or spiral and reverse effect, making a succession of arrows at the top and bottom of the side of the work basket. The idea of using the triple weave on the sides at the top and bottom was obtained from a Japanese waste basket. That part of the

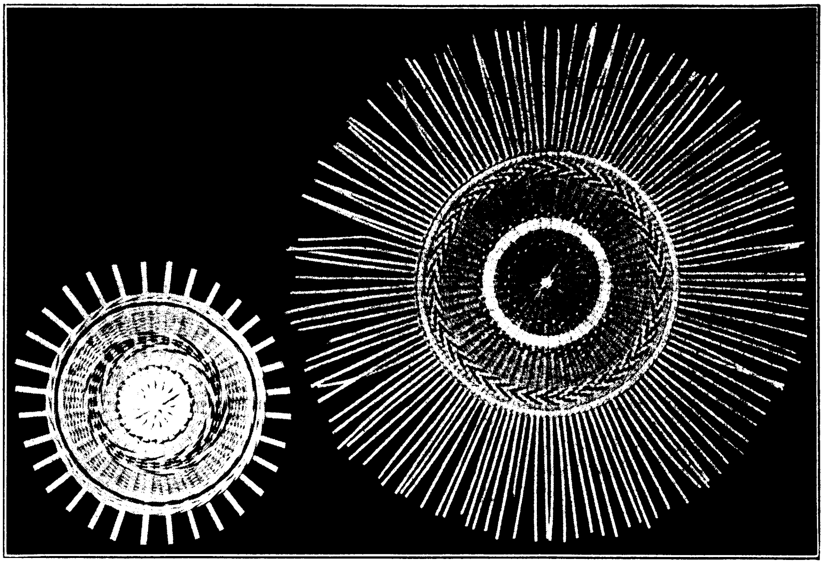


Plate X. Bottoms of Polangui baskets.

sides between the rows of triple weave may be divided into light and dark bands or into light and dark vertical stripes as may be desired. One or more dark weavers may often be used to good advantage in setting off adjoining bands of colors or weavers. Sometimes a spiral in coarser material and in single or pairing weavers looks well at about the middle of a basket. Pairing may be used to produce a checkerboard as well as a striped effect. Nito is used rather sparingly on the sides.

Rim and handle decoration is a striking feature in the Polangui baskets and is usually in black and white, though sometimes in brown and yellow. Air roots, split rattan or vines give the white, nitos produce the black and browns, and irao is used for the yellow. Judging from the facility with which a child of ten or twelve years accomplishes the task, the planning and laying out of the designs seem to be easy matters; but the trick of making the designs match exactly is difficult because they are in units. Care must be taken to so lay out the design that the units are of uniform size and the spaces between them equal. For example, if the design is a series of diamonds, the last unit must be a complete diamond of the regular size, and the uniform spacing must be maintained.

There are several general shapes of these baskets, such as the work basket shape, the waste basket shape and the market basket shape. But each may be varied considerably in the

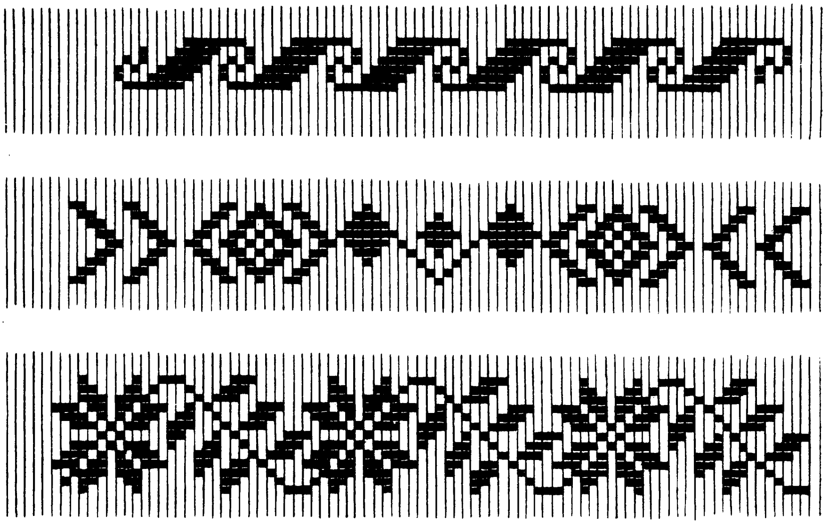


Plate XI. Rim and handle designs showing method of laying out.

details of form and decoration. The sides may be straight, concave or convex, vertical or flaring. They may be either single or double. When double they may be plain or fluted, somewhat resembling the rough fluting of the shells of sea mollusks. The bottom may be round, elliptical or angular, with or without standard. The standard may consist of merely a triple weave of air roots, as is true in most cases, or of a rim of rattan that is bound and decorated with nito and air roots. Or the basket may be still more pretentious and have a standard which raises it up.

The basket may be with or without cover; the cover may be flat or convex, projecting over or beyond the edge of the basket, extending just to the edge of the rim, or sitting inside.

If the rim of the basket is of the same size as the rim of the cover, a thin strip of bamboo 2 or 3 mm. thick and 2.5 cm. to 3 cm. wide may be fastened as a flange to the inside of the rim of the cover to keep it from slipping off.

The basket may be of any size desired, but the standard proportions should be adhered to.

STANDARD WORK BASKET.

Dimensions of basket and materials.—The bottom is 17 cm. in diameter. The top is 23 cm. in diameter measuring from the middle of the rim. Measured perpendicularly, the basket is 8 cm. high. The material for spokes consists of 16 splints each 36 cm. long, 6 mm. wide, and 1 mm. thick. For the rim, whole rattan 86 cm. long and 12 mm. in diameter is used. The nito weaver for beginning this basket is 1 mm. wide and approximately half as thick, but for working in the design on the rims it is made a trifle thinner. The strips of air roots or similar material used for the weavers of the bottom of the basket may be either round or half round, but in any case they should be 1 mm. thick. The weaver for the side is usually 1 mm. wide and 0.5 mm. thick.

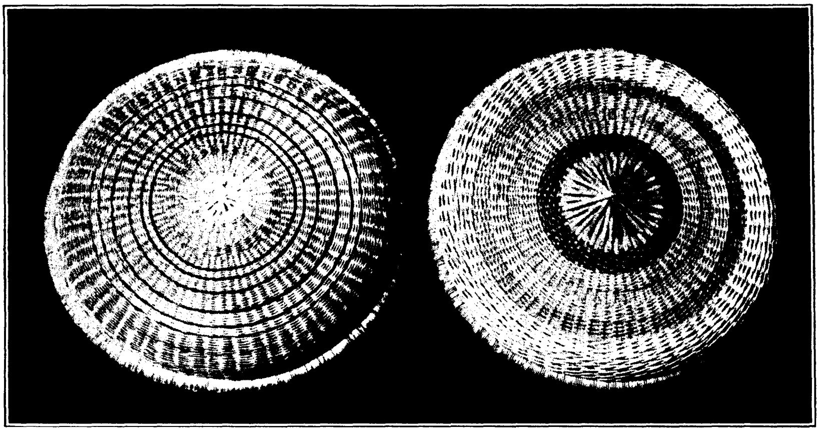


Plate XIIa. Decorated covers.

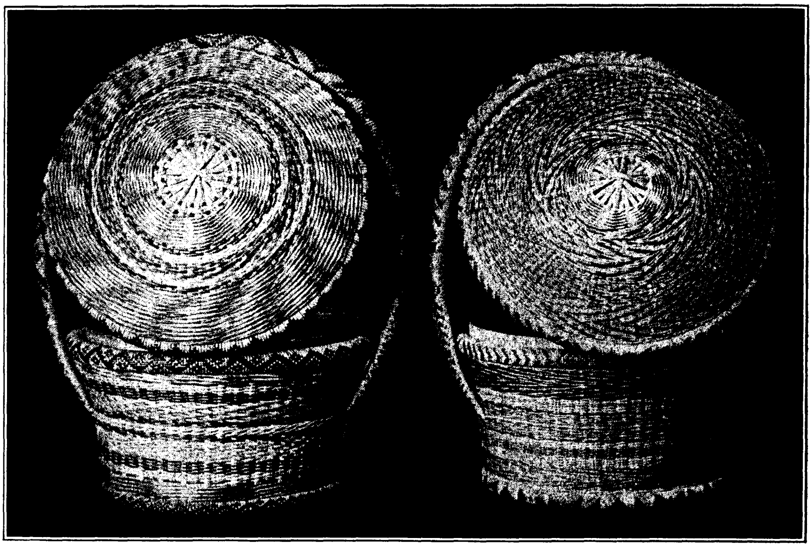


Plate XIIb. Lunch baskets with decorated covers.

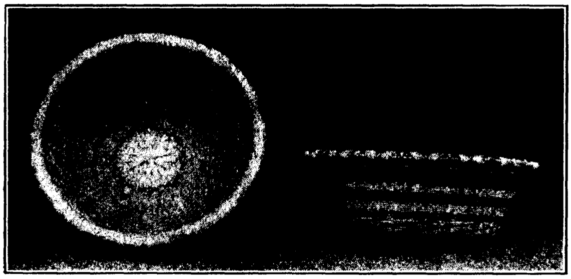


Plate XIII. Bottom and side of standard work basket.

Arrangement of splints for spokes.—The 16 splints are arranged in two sets of 8 each as shown in Plate XIV, fig. 1. The middle of each is marked with a dot and these dots should coincide. As soon as a set is completed it is held together by a temporary weaver of fiber. Set No. 2 is so placed upon set No. 1 (smoothed side down in all cases) that the spokes (splints) of No. 2 divide into two equal parts the angles formed by the spokes of set No. 1.

Weaving.—With the fingers of the right hand the weaver is grasped about two decimeters from one end. With the black side up, it is placed under spoke *a* (see fig. 2), being drawn as close to the center as possible without disarranging the spokes, and in such a manner that most of the two decimeters will be to the left of the spoke. With the fingers of the left hand resting upon the end of the weaver to the left of the spoke, the weaver is pulled with the right hand until only 5 cm. of the nito remains to the left, held under the fingers of the left hand. The work shoud always be held firmly with the left hand.

Now the over and under weaving is started. Every time the weaver passes under a spoke, the fingers of the left hand should push the weaver tightly into place. Until the first round is nearly completed, the end of the weaver at which weaving was begun is held in place by the thumb of the left hand. When the first round has been completed, both ends of the weaver are pulled tight. The second time round is faster. The weaver is continually crowded in toward the center. When the weaving of the second round has proceeded a short distance, the work is held at arm's length to determine whether the weave has formed a perfect circle. If not, this is the time to correct it.

After two rounds of the first weaver have been woven in, the long end is pulled toward the center to such a point that two perfect rings, not coils, are formed. (See fig. 2.) The weaver overlaps here, but in no other place. The long end of the weaver is now held temporarily by pushing it down as far as it will go between the spokes within the circle formed by the two rounds of weaving. A second nito weaver is now started, this time

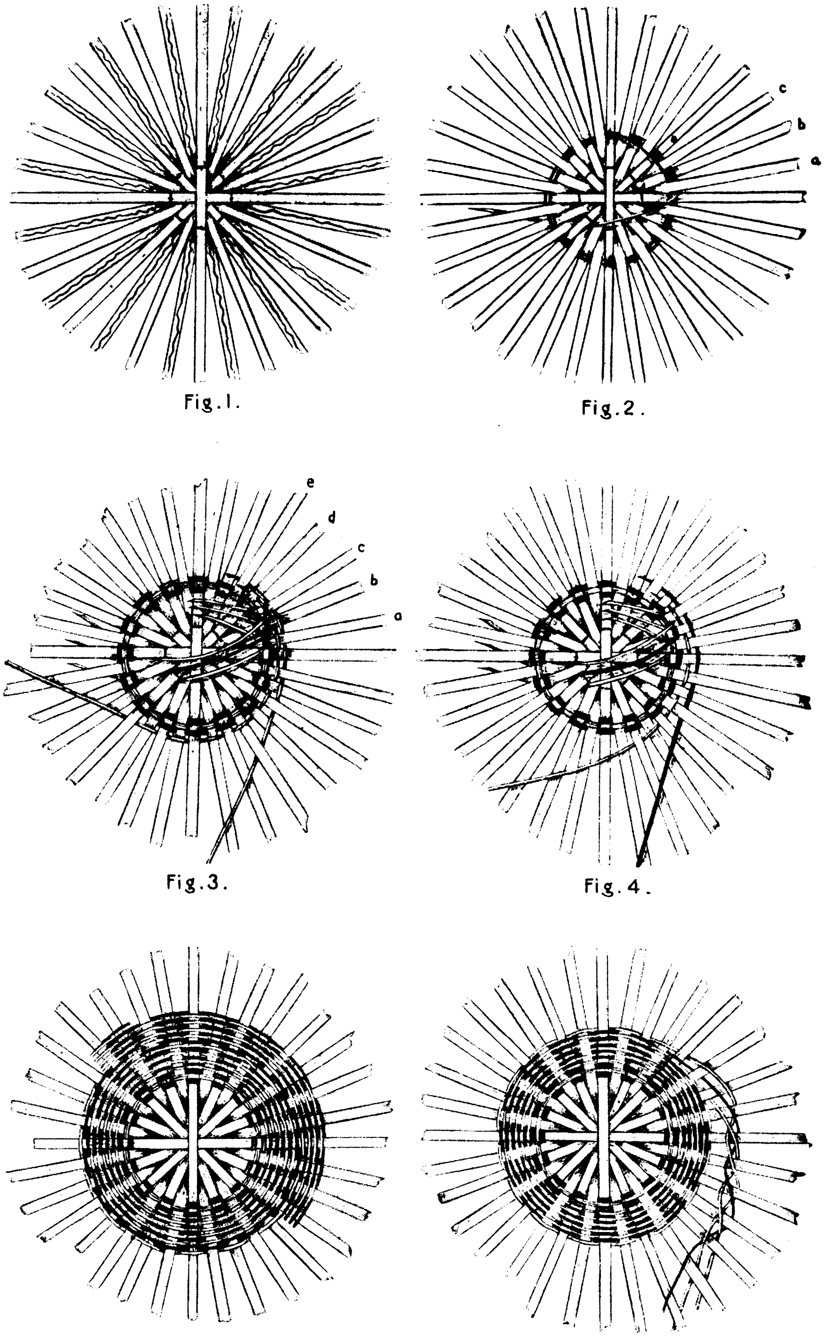


Fig. 1. Fig. 2.

Fig. 3. Fig. 4.

Fig. 5. Fig. 6.

Plate XIV. Figures for weaving the bottom of a work basket.

with the white side up, and is woven twice around. It starts from under spoke *b* and is begun, woven and fastened in the same way as the first weaver. (See fig. 2.)

More care is required in weaving the third round. One has to pull harder, frequently causing the weaver to break. It is necessary to press down continually in weaving this round in order to keep the spokes all on the same plane. The work will otherwise be loose and uneven. It is well to have the work near the corner of the table, or on a box or a big book, so that one may reach under the work without raising it, thus preventing the weaver from slipping.

The third nito weaver is started, black side up, from under spoke *c*. The weaving is now fast and easy. After the third weaver has gone twice around, the temporary fastening of string or fiber of the original sets of spokes may be cut and removed. (See fig. 6.) Care should be taken not to let the knife injure the spokes. It is best to cut this fastening on both sides so that in pulling the pieces out, the structure will not possibly be wrenched out of shape.

The single weave is now finished. Here the work progresses for a time with two weavers in the weave known as pairing. The pairing weave is started in the same way, whether one black weaver and one white weaver are used as in fig. 3, or whether they are both of the same color as in fig. 4. If a plain weave is desired, both weavers should be of the same color. In the past the Polangui baskets have generally been made with plain bottoms. Unless they are very fresh, the weavers for the bottom as well as for other parts of the basket should be slightly dampened before using.

Pairing is started as follows: Two weavers are sharpened so that the ends taper off for a distance of 5 mm. With the tapered part resting on spoke *e* (fig. 3) and held by the middle finger of the left hand, weaving is begun with one weaver over one and under one until one round has been almost completed. The second weaver is begun at spoke *f* and woven once around. These two weavers are then woven alternately.

A black and white radiating effect, starting on one set of spokes and then changing to another is obtained by joining a black weaver to a white one and vice versa. (See fig. 5.) The plain radiating effect is obtained by using two weavers of different shades.

A pairing weaver may be joined as follows: The ends of the old and new weavers are thinned down. The old weaver is allowed to rest upon the top of the spoke, but not beyond. The tapered end of the new weaver is laid under the preceding spoke and next to it. The end of the new weaver is now held in place between the old weaver and the spoke. The end of the old weaver is likewise held in place between the new weaver and the following spoke.

The pairing weave is continued up to a point 8 cm. from the center of the basket. Now all protruding ends are trimmed off and hidden behind spokes or between weavers.

The triple weave of bacog for the standard on which the basket rests is made from three round strips, 2½ or 3 mm. in diameter, and 64 cm. long. In fig. 6 the triple weave is shown from the point marked X. This weave should be kept closely pressed up against the pairing. If weavers are properly spliced it is difficult to discover the ends.

In turning up the spokes for the side, the basket is held up in front of the worker, the outside of the bottom toward him, the hands grasping the upper margin of the woven part. With the first finger of the right hand the spokes are bent up, one at a time, leaving them so that they make about the angle wanted, being careful that the bend is made as close to the rim of triple weave as possible. Each spoke should be marked where the bottom of the rattan rim is to come or the rim is likely to be askew.

Now the weaving of the side is begun. If a spiral effect is desired the triple weave should be employed, and in beginning, the middle weaver should be of an odd color. By reversing the triple weave, the arrow effect may then be obtained.

Most of the fine points of weaving a basket will be discovered only through practice. The general directions on the weaving of the bottom pertain also to the sides.

The flare of the basket results from the difference between the diameters of the rim and bottom. In order to get this just right, many devises may be used; but the experienced basket maker needs no guide other than his eye. For the beginner a form made of pasteboard is very helpful. The outline of the model may be drawn full size if the pasteboard is large enough. If the back of a ruled pad is used, one half of the model is sufficient. By fitting the model frequently to the basket as the side is woven, it is quite easy to get the desired flare. But in addition to the pattern, the ruler should be constantly used. The diameter at the points at which the spokes were marked should be measured frequently.

When the weave of the side is finished correctly and the diameter is exact, the rim is fastened in place with a temporary binder.

Rim.—The rim is made of two rings of half round rattan, and when wound with the binder measures approximately 12 mm. in diameter. One ring fits around the outside of the spokes, while the other lies just opposite it on the inside. The ends of the material for each ring should be so nicely tapered and fitted that there will be no noticeable irregularity in the size of the rim at the joints. The joints should be on opposite sides of the basket. The binding is begun just to the right of a joint with a half round strip from 1 to 2 mm. wide, and is started in such a way that the end is held fast between the under edges of the two rings. The winding is done toward the worker.

When the binder has been twice around, the nito or irao is interwoven. These are laid on the outside of the rim next to the rattan in such a manner that the next round of the binder will hold them. Care should be taken to place the strips neither too high nor too low on the rim. An odd number of weavers is used. The nito should be thinner for this purpose than for weavers.

The binder as well as the nito should be of uniform size and shade throughout and should be wound at right angles to the rim. The winding should be very closely done.

When the binding reaches the point at which the spoke disappears between the two rings of the rim, it is punctured with an awl and the binder passed through. The holes produced by the passing through of the awl should be so fine that the binder will be as close together on the lower side of the rim as on the upper side. Care should be taken to splice the binder on the under side.

STANDARD WASTE BASKET.

Dimensions.

	Centimeters.
Diameter of bottom	19
Diameter of top	29
Height	33
Diameter of rim	2

The material, the arrangement of spokes and the weave are the same as for the work basket. There are 19 spokes 88 cm. long. They should be 6 mm. wide and 1 mm. thick. When the bottom is woven 7 cm. from the center 32 spokes are added. They are 55 cm. long. The ends are sharpened and inserted under the weaving. When the bottom is 19 cm. in diameter, a rim of round air roots is woven once around, using triple weave. The only difficult thing about the weaving of this basket is getting the sides into the shape desired. A form will help. This form may consist of rings of bamboo of proper size tied temporarily to the spokes till the desired shape is obtained.

STANDARD MARKET BASKET.

Dimensions of basket and materials.—The ellipse of the bottom is 30 cm. by 22 cm. That of the top is 42 cm. by 35 cm. These measurements are from the middle of the rim on opposite sides.

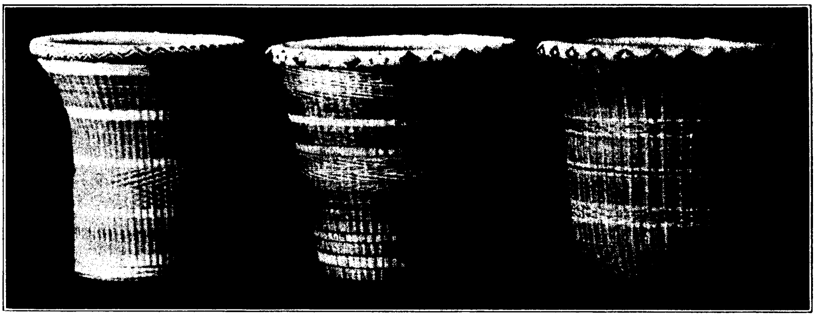


Plate XV. Three shapes of waste baskets.

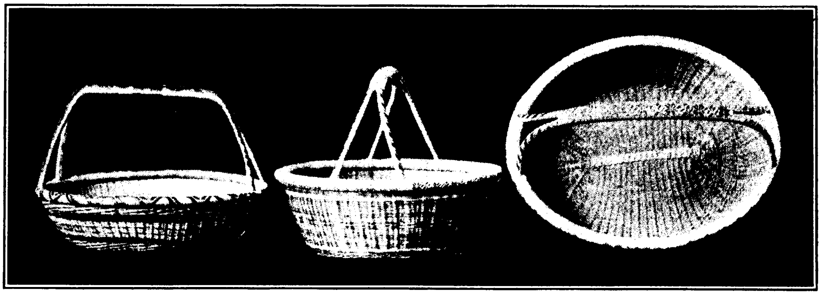


Plate XVI. Views of the market basket.

The main part of the basket is 10 cm. high, measured perpendicularly. The ridge of the bottom is 15 cm. long. The height of the handle above the ridge is 26 cm. The main or thick part of the handle is 30 cm. long and 1 dm. in circumference when finished.

The materials for the spokes consist of 9 strips, 60 cm. long and 1 mm. thick, and 19 strips 54 cm. by 1 mm. These strips are 4 mm. in width at the center. The longer ones taper to 6 mm. at a distance of 15 cm. from the center, and the shorter ones attain the same width at a distance of 11 cm. from the center. The material for the handle is cut 121 cm. long, of half round rattan, 4 cm. wide. For the rim, round rattan 140 cm. long and 15 mm. in diameter is used. The weaver is of the same size and material as that for the work basket. Before arranging the strips for spokes, a dot is placed at the middle of each 60 cm. strip, and 2 more dots on each side, at distances of 7.5 cm. and 15 cm., respectively.

Arrangement of strips.—Three of the 60 cm. strips are laid side by side to form the first layer of the ridge of the bottom. A fourth strip is laid on the middle one of the first three. A fifth lies on one side and slightly over the fourth strip. A sixth strip is placed in the same relative position on the other side of the fourth strip. The fifth and sixth strips will touch each other. Three more splints are now laid on these six in such a manner that the bunch appears rounded.

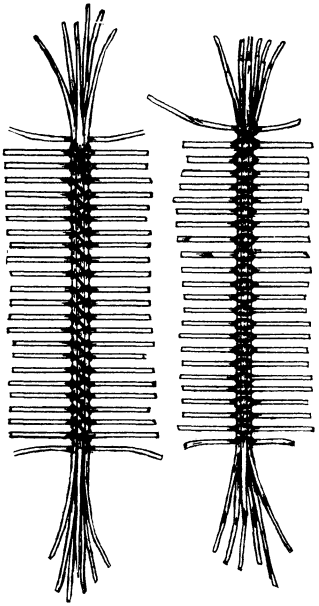


Fig. 1. Fig. 2.

Plate XVII. Figures showing the upper and under sides of the market basket spokes.

In binding the second set or shorter strips to the longer, start the nito weaver 7.5 cm. from the middle of the first set of strips. It should pass between the first four and the last five strips, white side up, in such a manner that an end about 4 cm. long protrudes to the left.

A 54 cm. strip is placed in such a manner that it crosses the nito binder between the first four and last five longitudinal strips at a slight angle to the nito but at right angles to the bunch so that the nito weaver or binder makes a cross on the smoothed side and two parallel rounds on the outside. The remaining 18 splints are inserted in the same manner as shown by figs. 1 and 2 of Plate XVII. The crossing point of the first of the 19 strips should be just 15 cm. from that of the last. This is not easily brought about unless the strips have been very carefully trimmed to uniform dimensions.

Weaving.—Six rounds of single weave are now begun and continued in about the same manner as in the work basket. If the side on which the weaving is being done is held flat with the fingers of the left hand and the weavers are drawn fairly tight, the proper arch will result. Care should be taken not to make the arch too high; the bottom of the ridge should be raised about 2 cm. above the plane of the standard.

It is sometimes difficult to make all points of the standard touch the same plane so that the basket will sit firmly. To overcome this, an extra row of pairing with short weavers is put in at about 5 cm., from each side of the ridge across the lateral spokes only.

The proper flare of the sides may be easily secured by means of a pasteboard form as described under work baskets.

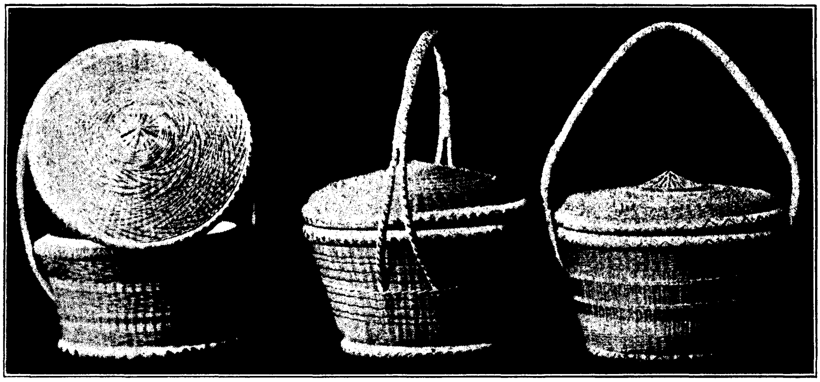


Plate XVIII. Side, end, and cover of lunch basket.

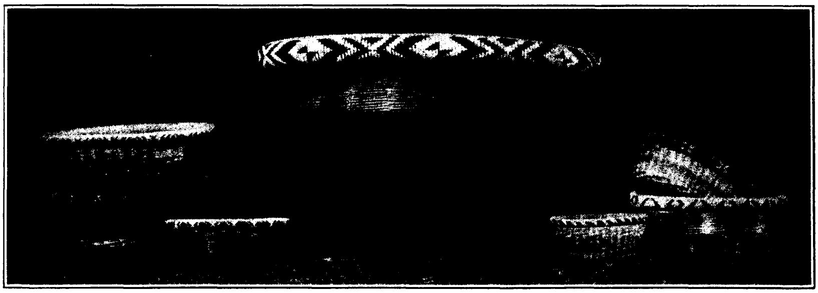


Plate XIX. Group of small Samar baskets around a basket of usual size made of dyed bamboo.

Handle and rim.—The two ends of the handle are inserted just before putting on the rim. They are forced down between the weavers at each end of the basket and between the weavers of the bottom so that each will lie between the lateral group and the longitudinal group of the spokes. First the inside of the rim is put into position and then the outside. Many people prefer the handle attached to the sides of the basket in the manner of the American market basket.

STANDARD LUNCH BASKET.

Dimensions.

	Centimeters.
Diameter of rim forming standard of base	21
Diameter of rim forming top of basket proper	26
Diameter of cover rim	26
Diameter of woven bottom	21
Height from bottom of standard to top of rim on basket proper	14
From the under side of handle to center of bottom	32
The height of cover is	6

Materials.—Sixteen strips, 49 cm. by 5 mm. by 1 mm.; 32 strips (for extra spokes) 14 cm. by 5 mm. by 1 mm.; 48 strips (for spokes of cover) 34 cm. by 5 mm. by 1 mm. The strips are arranged the same as for a work basket. For rims:

Standard: Whole rattan, 77 cm. by 15 mm.

Top of basket: whole rattan, 92 cm. by 15 mm.

Handle of basket: whole rattan 119 cm. by 17 mm.

Weavers: Same size and kind as for work basket.

Weaving.—The weaving of the bottom is the same as for the work basket. The side is begun in triple weave. As it progresses, the extra spokes are laid in between the original ones in such a manner that two of the triple weavers are always on the outside of the extra spoke.

In weaving over the extra spokes, it is not necessary that the weavers cross at the points at which they eventually lie, as these spokes may be easily slipped to their correct position after the weaving has progressed. When the extra spokes are in position, they will project 15 mm. below the bottom and in line with the side. The sides may be in a variety of weaves, as shown in the illustrations. A triple weave of air roots is placed around the middle for the purpose of holding the handle in position.

Handle, rim, and cover.—The handle is inserted just above this triple weave. The lower rim is put in place and temporarily fastened before the handle is inserted. Then the upper rim is placed in position. The cover may be woven with fewer spokes than indicated, but with the larger number of spokes the basket is much stronger.

The weave of the cover is started with single weaver, and is changed to pairing, triple or quadruple, as desired, with varying effects. Air roots are sometimes used to advantage on the cover, but they are rather too expensive a material.

The cover is held on by means of a bamboo flange about 2.5 mm. thick and about 3 cm. wide. The flange is fastened on the inside of the rim of the cover, often by brass tacks; but it is more in harmony with the rest of the basket if a woven fastening is used.

VARIETIES OF THE FOUR STANDARD SHAPES OF POLANGUI BASKETS.

Varieties of the above four standard shapes of baskets result from differences in structure, form, decoration and materials. Differences in structure develop from the beginnings and weaves. There is no limit to varieties in form. Decorations depend upon combinations of colors and weaves. Materials determine varieties to only a small extent.

The Samar varieties differ principally in the size of the basket, in the materials, and in the structure. They are particularly noticeable on account of their very small size. Their chief beauty lies in the fineness of the materials which compose them, the neatness of their weaving and their unusual decorations. (See Plate XX.)

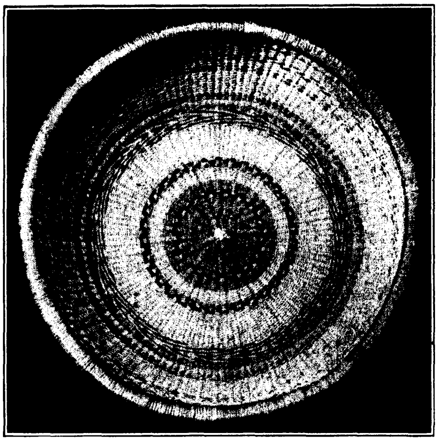


Plate XX. Laoag basket.

The Laoag baskets show considerable variation in structure and size. (See Plate XX.) All begin with four strips of rattan crossing each other at equal angles. These strips are approximately 5 mm. by 1 mm. The weaver for most of the bottom is a round air root about 1 mm. in diameter, and the standard is a triple or quadruple weave of air roots about 2 mm. in diameter. The air root weavers for the sides are slightly coarser, approximately 1.5 mm. Strips of nito about 2 mm. wide form bands of black in single, pairing and triple weave on the inside of the bottom and sides. The sides are more or less bowl-shaped and the basket does not rest entirely upon the rim. Three or four groups of extra spokes may be added, the first containing 8 strips, the second 16, the third 32, the fourth 64, at distances of about 12, 24, 50, and 90 mm., respectively, from the center. The rim is made and decorated in much the same manner as the other Polangui baskets. The weave for most of the bottom is pairing, and for the sides it is twined. The average size is 28 cm. top diameter, 20.5 cm. bottom diameter, 6.5 cm. height. The basket is peculiar on account of the color decoration of the inside bottom, resulting from the use of bleached and unbleached air roots, as well as its bowl form and its structure.

The Dingras variety is typically Ilocano on account of having superimposed spokes.

In the Philippine Normal School a variety of these baskets has been evolved in which dyed bamboo is used for the sides. Some of these are very beautiful but great care must be exercised in dyeing the bamboo a pleasing tone and in combining the colors correctly.

The spiny bamboo is generally used; however, any variety that is straight and tough will serve the same purpose. The bamboo should be at least three years old and cut during November or December when the sap is down. It is split into small weavers and dyed within a day if the weather is dry. Dry bamboo is ready to dye as soon as split. Brown and olive-green "Easy Dyes," or Chinese aniline dyes are used; in the latter case use dark green and coffee colors. For black, use logwood and blue-stone, taking one-third as much of the latter as of the former. One pint of vinegar is added to each gallon of liquid dye. The bamboo splints are coiled and allowed to remain in the hot dye for at least half an hour. If the dye is weak they may be allowed to remain longer. The dyed materials are dried in the shade and then coated with floor wax or coconut oil. After they become dry they are polished by being pulled through a rag held in the hand.

THE ZAMBALES BASKET.

The distinguishing feature of the Zambales bamboo basket is a set of superimposed spokes or outer ribs blackened by fire. It originated in Zambales province under the direction of Mr. Juan A. Santos, a teacher in the barrio of Amungan, town of Iba, during the school year 1911. This teacher, in providing waste baskets for school use, conceived the idea of inserting the black spokes after the fashion of the Ilocano fishermen of that barrio, who thus construct their fish baskets. The spokes are inserted for strength and durability, and are blackened for beauty.

The Zambales barrel-shaped waste basket is made almost entirely of the spiny bamboo.

The standard measurements are as follows:

	Centimeters.
Height (including the standard, which is 5 cm. tall)	40
Diameter at top	24
Greatest diameter of body	30
Diameter at bottom	20
Diameter at top of standard	20
Diameter at bottom of standard	24

Selection of material.—For the inner spokes and weavers, bamboo from twelve to fifteen months of age is selected; if younger than this, it is too soft, while the older bamboo is too brittle. For the black outer spokes, bamboo from six to eight months old is used; not only is it more pliable at this age, but it also takes color more readily in the process of blackening.

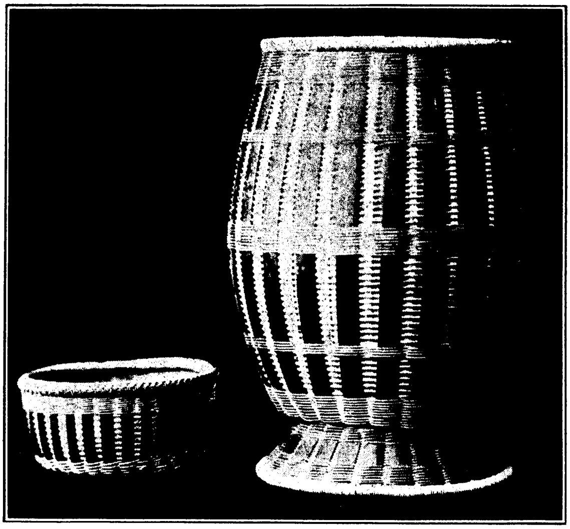


Plate XXI. Zambales work and waste baskets.

The inner spokes consist of 12 strips 95 cm. long. The thin green bark is scraped from the outside of a section of bamboo. This is then split into strips 8 mm. wide and 1 mm. thick. From points 5 mm. on each side of the center, the strip is gradually narrowed to a width of 2 mm. at the center. Care should be taken to make the strips smooth. The weaver may be prepared by first slightly cleaning it and then drawing it through a hole in a piece of tin or zinc.

In preparing the 24 outer spokes, a cylindrical section of bamboo is scraped clean of the outer green covering and held in, not over, the lower part of a flame. At frequent intervals the material is wiped with a wet cloth to remove the smoke and soot and to prevent burning. The steaming thus caused allows the absorption of carbon from the smoke. Thus any degree of blackness may be secured. The cylinder is then split into strips 39 cm. long, 2 cm. wide and 1 mm. thick. One end of each black spoke must be nicely rounded to a blunt point and pared to a thin edge for making the turn at the bottom. Care should be exercised in selecting the material for these spokes. No joints should appear to detract from their beauty, and there should be uniformity in dimensions and coloring. Strips even slightly marred should not be used.

The original strips are arranged and the weaving is begun in the same manner as in the Polangui work basket. Often the weavers used are of bamboo only. After eighteen rounds of this have been woven, the turn is made for the sides and the spokes are secured in place; work is then begun on the standard.

The inner spokes of the standard are composed of 24 strips 12 cm. in length (though it is better to prepare them a little longer than this for the sake of convenience in handling), 8 mm. wide and 1 mm. thick. One end of each spoke is tapered for 5 cm. and trimmed very thin. This tapered end is inserted into the bottom of the basket through the triple weave and pushed in as far as possible. The spokes are then turned down and weaving is done with a combination of triple and pairing weaves. The superfluous ends are then cut off and after the black spokes have been inserted the rim is attached. The black superimposed spokes for the standard are 24 in number, 7 cm. in length.

To complete the body of the basket, continue weaving with bamboo weaver in triple and pairing weaves. The tapered ends of the black spokes are inserted through the triple weave and over the pairing weave from top to botton. Care should be taken to see that the thin ends are made to turn down and enter the triple weave at the bottom of the basket and are not left exposed. The black spokes of the standard are adjusted in the same manner.

The rims are made in the same way as those of the Polangui baskets. The rattan for the outer ring should be 87 cm. long, and for the inner, 86 cm. long.

The work basket is made in the same way as the waste basket but should have a round triple weave of air roots for a standard.

COILED BASKETS.

ABACÁ AND BURI RAFFIA.

Philippine coiled baskets are made on a single or multiple foundation. The process in both cases is practically the same. When a single foundation is used the knots or stitches may be made a little farther apart.

To make a basket with a multiple foundation, an even number of strips of sedge is selected. Six strips make a foundation of satisfactory size. These strips are so arranged that the larger ends of three strips will lie beside the smaller ends of the other three strips. Thus, when they are bound together the coil will be of approximately uniform size throughout.

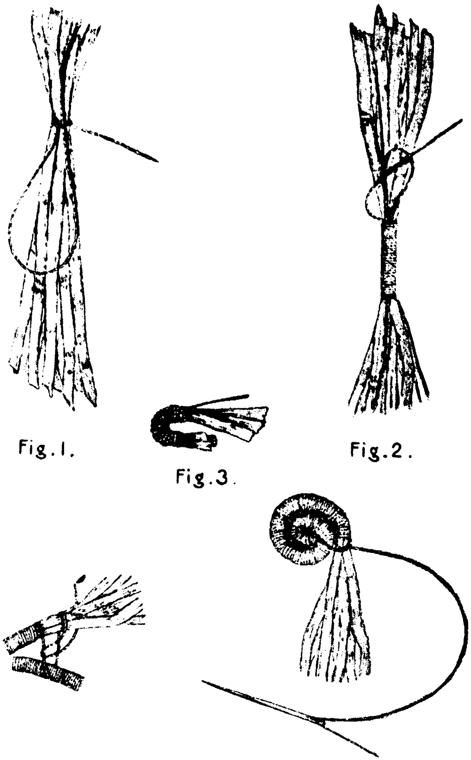


Plate XXII. Figures for weaving abacá or raffia coiled baskets.

To start the basket, the six strips arranged as described above are placed side by side and wound loosely with a fiber just strong enough to hold them together while making the basket. Work is begun as in fig. 1 Plate XXII. A large-eyed needle is threaded with 1.5 m. of abacá or buri raffia cord. Lay about 4 dm. of the cord on the foundation in the manner shown in fig. 1. The cord should be wound on the foundation as shown in fig. 2, for about 1.5 cm.

The short rough ends of the sedges are cut off with a sharp knife about 1 cm. from the part wound. This is then bent as shown in fig. 3. The short part of the foundation is now next to the worker, held in place with the thumb of the left hand. The long end lies to the left. The cord is wound toward the worker for one round, binding the two parts that have been bent together, and the knot is tied as shown by fig. 4. When winding has continued for about 1 cm. the short rough ends of protruding strips of sedge are cut off close to the cord. The winding and binding is now continued as shown in fig. 5. The stitches or knots may be at intervals of 8 mm. or less, but always at uniform distances. The closer together they are the stronger the basket will be. The ends of new cords are hidden and fastened under the binder.

The design or colored work is started and finished in the same way. Any cord not in use is carried along until needed by laying it on the foundation and covering it by the binder.

The strips of which the multiple coil is composed should end at different points, so that new ones may be added one at a time. If they were all spliced at the same point, the joint would show and the coil would be weak at that point.

As yet there have been developed no distinctive Philippine designs, though attempt is being made to create them in various localities. Some of the results so far attained are given in the illustrations.

Most of the conventional designs are easily made and consist of stars, spirals, wheels with spokes of uniform or of varying length, combinations of diamonds and triangles, and the like. These may be either solid or in outline, of uniform or varying sizes, but always symmetrically arranged and for most designs in multiples of 2, 3, 4, 5, or 6. The design for the bottom should be drawn carefully on cardboard or heavy paper, using concentric circles to represent the coils. The figure may be cut out and used to determine just where the design is to go on each coil of the basket. The design for the side of the basket may be a continuation of that for the bottom or may be different, but in any case the number of parts for side and bottom should have a common divisor and the arrangement should conform to that on the bottom. All corresponding points of the design should be made at uniform distances apart. Care should be taken not to make the design too heavy, and to have it properly placed. Many a good basket has been rendered of little value because the design which had the right idea back of it was too heavy or was slightly askew.

As it is difficult to calculate the exact length of foundation to be covered with colored cord when starting a design, one must not be disappointed if it does not come out exactly upon completion of the first round so that it is necessary to do that coil again. A mistake in measurement is often made on the

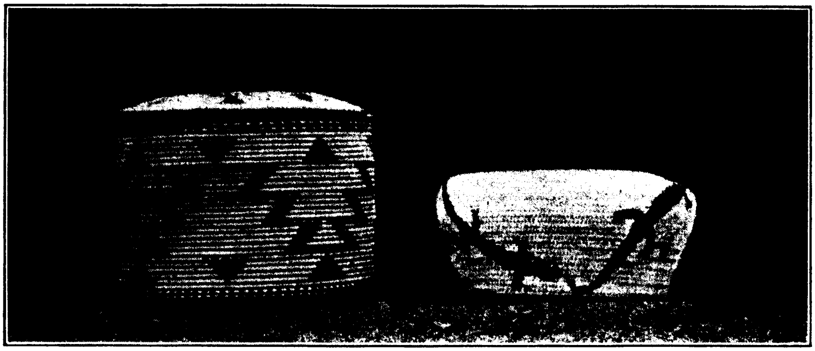


Plate XXIIIa. Coiled abacá and raffia baskets.

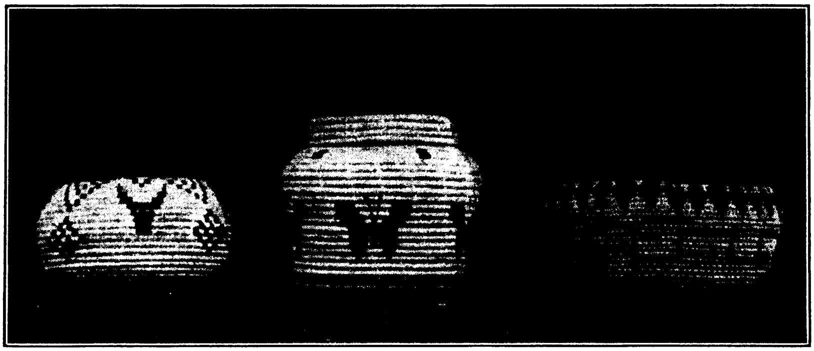


Plate XXIIIb. Coiled abacá and raffia baskets.

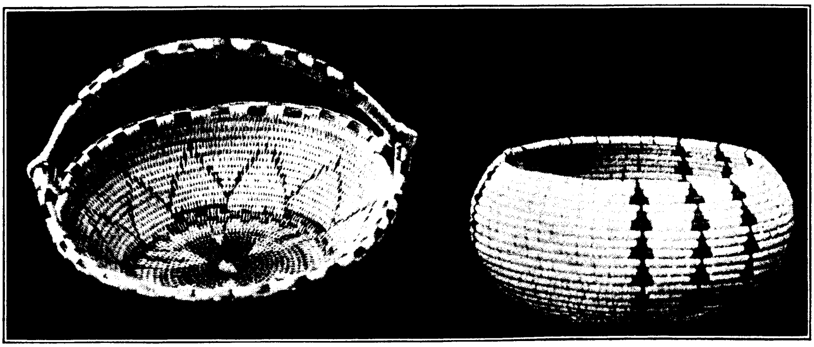


Plate XXIIIc. Coiled abacá baskets.

second coil of a design. In placing a design it is well to remember that the outside perimeter and the inside perimeter of a coil differ perceptibly.

The basket should be so finished that the end of the coil will be as little noticeable as possible.

A coil basket of this type should not exceed a decimeter in diameter and the sides should be made in proportion.

Air roots or rattan can be used for single foundations, but baskets are not so easily begun on them on account of the breaking of the material.

COILED NITO BASKETS.

The coiled nito basket is made by winding thin, narrow strips of nito about small, cylindrical-shaped rods. This basketry seems to be of Malay origin, the art having been practiced chiefly by the mountain people throughout the Philippine archipelago. The remains of a few of these baskets, woven from black nito and probably made many decades ago and handed down from generation to generation, have been found in the mountains of Samar. In Cagayan and the Mountain Province coiled baskets of this type are made of rattan in a coarser and rougher weave. Those from the island of Itbayat, Batanes Islands, have a peculiar yellow and brown diamond design, in triplicate, around the center.

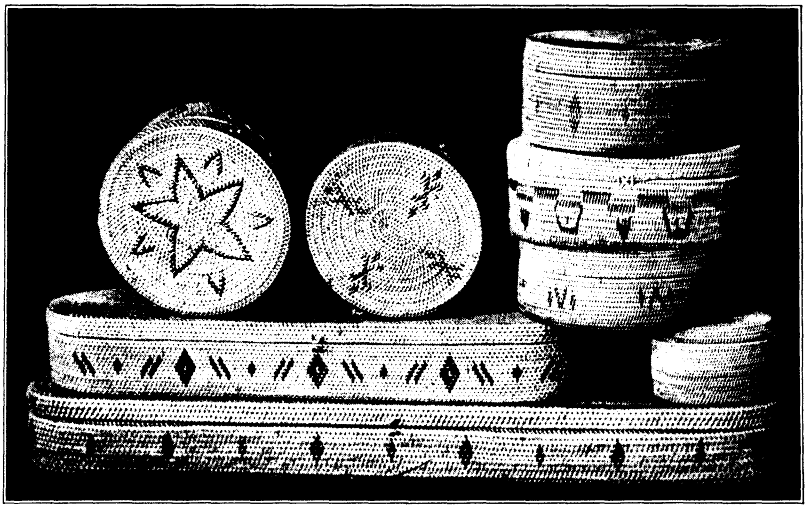


Plate XXIV. Coiled nito baskets.

The foundation of the coil may be made of rattan or of air roots; rattan is considered the better. For a very fine basket, it should be shaved down to 1.5 mm. in diameter and then sandpapered well. For larger and coarser baskets, the diameter may be increased. The fineness of the basket will depend entirely upon the size of the rod and the nito binder. With finer material, the basket will be more artistic and neater.

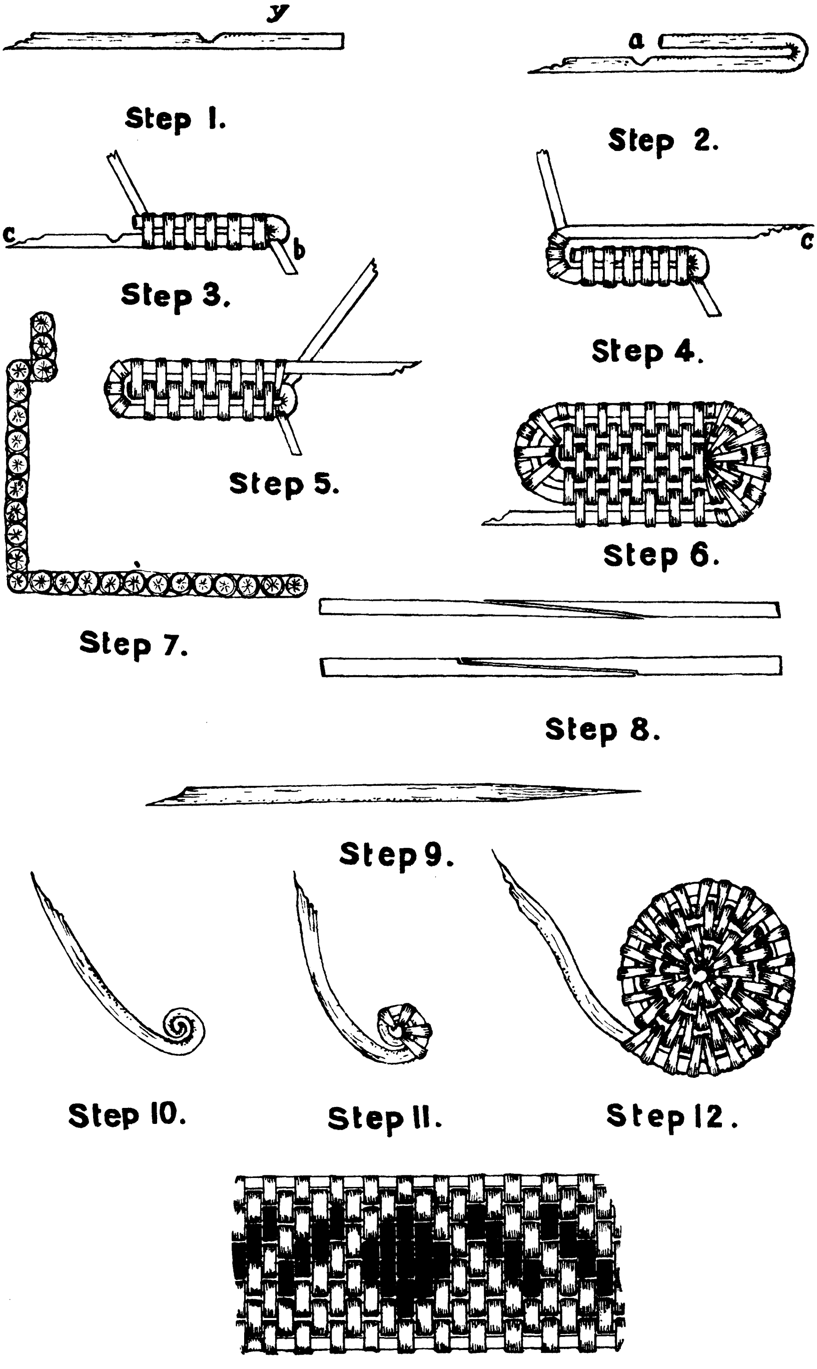
The binders are made of nito splints from which the colored layers have been scraped, and are of a light color. For very fine baskets they should be shaved down to 0.2 mm. in thickness and 1 mm. in width. For large coarse baskets the size of these splints should be increased.

Circular button boxes, collar and tie cases, and various other articles of basketry are made by using this style of weave. If properly woven, they are strong, serviceable and durable.

To begin an oblong nito basket the rod should be held in the left hand and a notch cut in it as shown by step 1, Plate XXV; it should then be bent at the notch as shown by step 2, and another notch cut at point A; while the piece of bent rattan is held firmly between the thumb and forefinger, with a thin, short awl a small hole should be punched at *b*, as indicated in step 3, and a piece of prepared nito inserted. The nito should be wound around the bent piece of rattan. Now the rod *c* is bent as shown in step 4 and the nito is wound around the curved end. Step 5 shows the continuation of the winding process. The sewing is now continued until the bottom is completed as in step 6. It is always necessary to prepare with the awl an opening in the finished portion through which the next stitch is to pass. The stitches should be drawn tightly and laid evenly so as to entirely cover the rattan rods. Step 7 shows how one rod is laid upon another at the edge of the bottom so as to form the side of the basket. It also shows how the rods are arranged to form the flange at the top for the lid. Step 8 shows two methods of splicing the rattan rods.

Circular baskets may be begun in the same way as oblong ones except that the part *y* of step 1 must not be more than 2 cm. in length. They may also be begun as shown in steps 9, 10, 11 and 12.

After the baskets are completed, designs may be embroidered with thin, black nito splints. The designs are first drawn on the basket with pencil, after which they are sewed in with the aid of an awl. Step 13 shows a design as it appears on the basket.



Step 1. Step 2. Step 3. Step 4. Step 5. Step 6. Step 7. Step 8. Step 9. Step 10. Step 11. Step 12. Step 13.

Plate XXV. Steps in the weaving of coiled nito baskets.

LUPIS COILED BASKETS.

Lupis trays are made on a flat foundation of rattan and begun much the same as any other coiled basket. A strip of lupis from 1 to 5 mm. wide is used for the binder. This material appears to be a trifle too thick and fibrous for ordinary raffia weave. The weaver is used flat with the satin-like side out. Lupis does not take color readily. The best effect is obtained with an elliptical bottom in tray-like baskets.

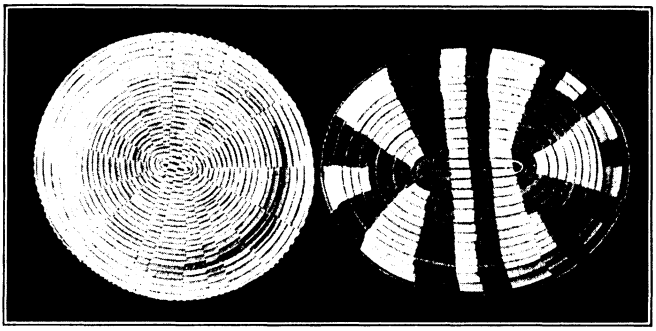


Plate XXVI. Lupis trays.

The basket depends largely upon its peculiar weave for its beauty, though the natural black which is obtained from the dried petioles makes a good decorating material. Plate XXVII shows how these baskets are begun and woven.

BASKETS OF PALM MIDRIBS.

These baskets are made in the whirl weave and can be shaped into round or oval trays, sewing, market or lunch baskets. Unlike other basket materials these midribs can only be used while fresh, being then pliable and soft. When once hardened and allowed to dry they are useless. Therefore the gathering, selection and preparation of materials and the completion of the basket should

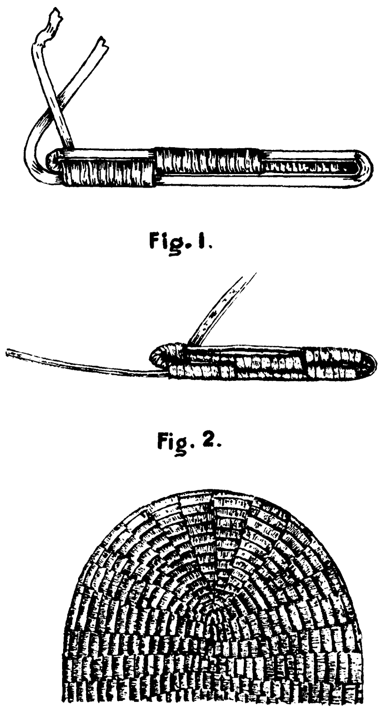


Fig. 1.

Fig. 2.

Fig. 3.

Plate XXVII. Figures for lupis trays.

be one continuous process. The palm leaves should be gathered early in the morning, and the midribs separated at once from the leaflets.

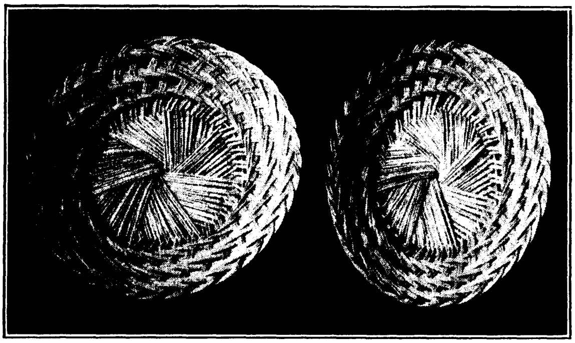


Plate XXVIII. Palm midrib baskets.

With a knife the skin from the midribs is scraped off to whiten them. Ribs of equal lengths, of perhaps 60 cm. or more, should be selected. With the butt ends placed together, the whirl is formed in groups of six, eight, ten, twelve or more pairs. Usually seven such groups are used as shown in Plate XXIX, which has ten pairs in each group. Some baskets can be formed with five or nine groups, the number of groups and the number of pairs in each group partly determining the size of the basket. Groups of six or eight should never be used, as the bends will make too much of a curve.

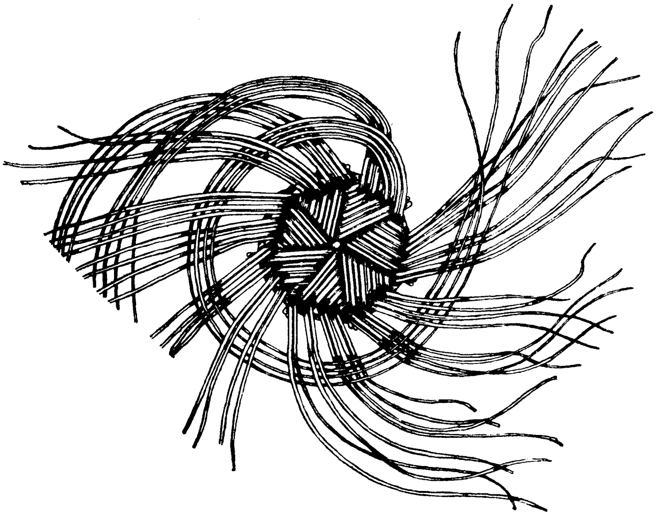


Plate XXIX. Figure showing weaving of midrib baskets.

The details of the weaving are shown in Plate XXIX. A strong string is tied all around the bottom, between the ends and the strands, to hold the work securely. The weaving is continued until there is only enough of the strands left to finish the bottom.

To make an oval tray, the bottom group is drawn into an oval shape before weaving. To make a bowl-shaped basket, a strong thread is passed through the top group of strands and the strands are drawn together tightly with this until the desired shape and size of the basket are secured. Then the string is withdrawn and the edge is smoothed at the top. A cover to fit over the top can be made in a manner similar to the beginning of the bottom. The cover may be attached to the basket with ornamental looped hinges of rattan.

RECTANGULAR BASKETS.

A large variety of rectangular baskets can be made from the cores of rattan and certain vines, split rattan, and air roots. Among these are square lunch baskets, book satchels, square bottomed waste baskets, desk baskets, market baskets, and hampers with covers. Designs for some of these baskets are shown in Plate XXX.

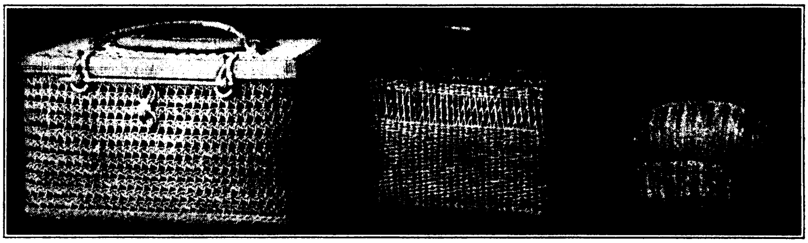


Plate XXX. Rectangular baskets.

HEXAGONAL BASKETS.

In the Philippines several shapes of baskets are made in the hexagonal weave; two of these are here described. The hexagonal weave which is the basis of both is woven as follows (see Plate XXXI *a* and *b*) :

Step 1.—Straws 1 and 2 are placed parallel; then 3 is put under 2 and over 1; 4 is placed under 1 and over 2.

Step 2.—5 is placed over 1 and 4 and under 2 and 3, and 6 passes under 1 and 4 and over 2 and 3.

Step 3.—*a* is placed over 5 and 6 and under 1 and 2, and *b* is put over 1, 2 and *a*, and under 6 and 5.

Step 4.—*d* is placed under *b*, over 6, 5 and *c*, and under 2, 1 and *e*. Then *e* passes under *c*, over 2, 1 and *d*, under 3 and 4, and over *a*. *f* passes under *d*, over 3, 4 and *e*, under 5, 6 and *a*, and over *b*.

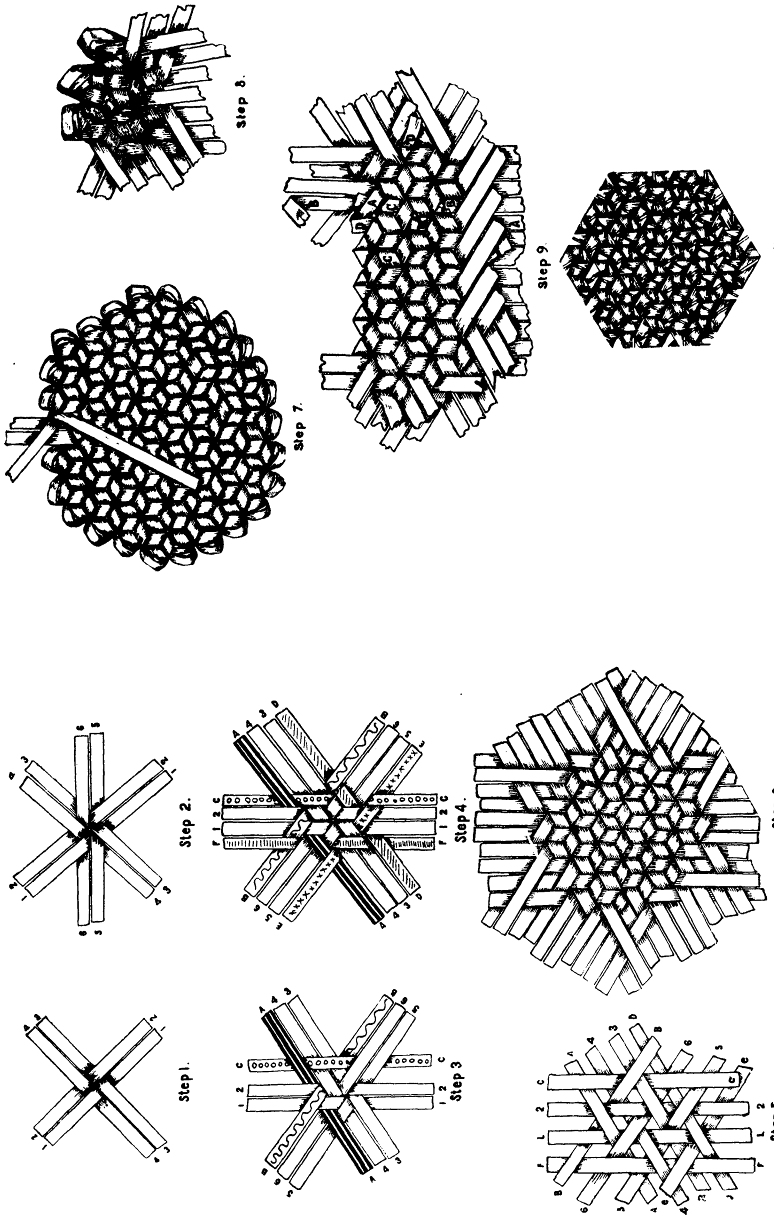


Plate XXXI. Steps for making hexagonal baskets in the mad weave.

Step 5 is made open so as to show the triple over and under weave. Further weaving is merely a repetition of this process as shown in steps 6 and 7.

The manner of forming the corners, and the five-pointed star, which occurs at each corner, is seen in step 8.

The karagumoy baskets of the Bicols have been developed in the schools. Strips of uniform width are required, 8 mm. being a good size. The rim may be reënforced by two rings of rattan but it is more often made simply by bringing the strips over and interweaving them on the outside into the original weave as in step 9, leaving a serrated edge. The decoration is in the form of six-pointed stars, hexagons, diamonds, triangles, rhombs, cubes, and bands of combinations of these figures. These may be made with the weaver that is left after finishing the rim, as it is interwoven downward making the sides double. It is an over one and under three weave. The weaver is given a complete twist as it passes over one. A combination of these twists in the right places forms the design. Up to a few years ago most of the hexagonal or "mad" weave baskets of this material were decorated with the twist, but with little or no attempt at anything more than solid work and bands. Now another common way of varying the decoration is by strips of nito or irao, which are laid over the original weavers in such places that the black shows in the form of stars and other figures.

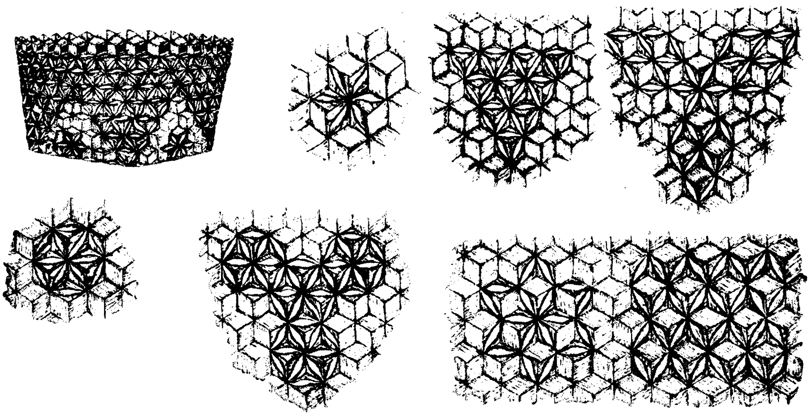


Plate XXXII. Decorations for the karagumoy basket.

The typical Romblon buri basket in the mad weave is made with a cover just enough larger so that it fits down over the basket proper, nearly concealing it when in place. The original weavers are 6 mm. in width. The bottom of the basket and

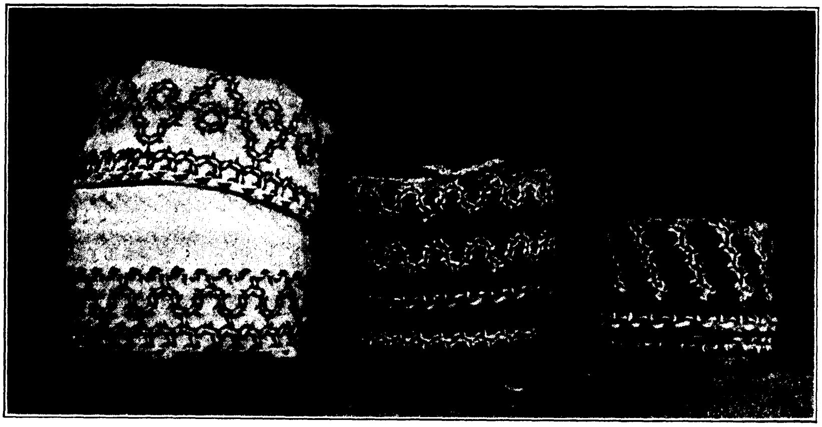


Plate XXXIIIa. Romblon buri baskets.

the top of the cover are reënforced on the inside by means of pairs of bamboo splints interwoven with the buri and extending from each corner. The cover and the basket proper that is not hidden by the cover are elaborately decorated. Narrow strips the same color as the body of the basket are woven in, and around these are twisted other narrow straws, usually of two different colors. The method is illustrated by step 10. Plate XXXI.

MARKETS.

The local demand for the Philippine baskets has so far been great enough to take up nearly all those made in the schools. Indeed most of those baskets sent yearly to the Carnivals and Exposition at Manila could have been disposed of in the localities in which they were woven. However, in a few provinces, such

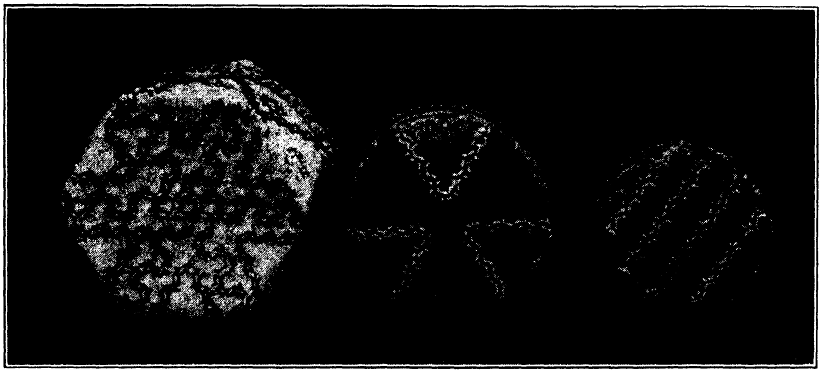


Plate XXXIIIb. Romblon buri baskets.

as Sorsogon and Albay, the limit of the local market has been reached.

It is the concensus of opinion that most of the types and shapes of baskets described in the preceding pages would sell

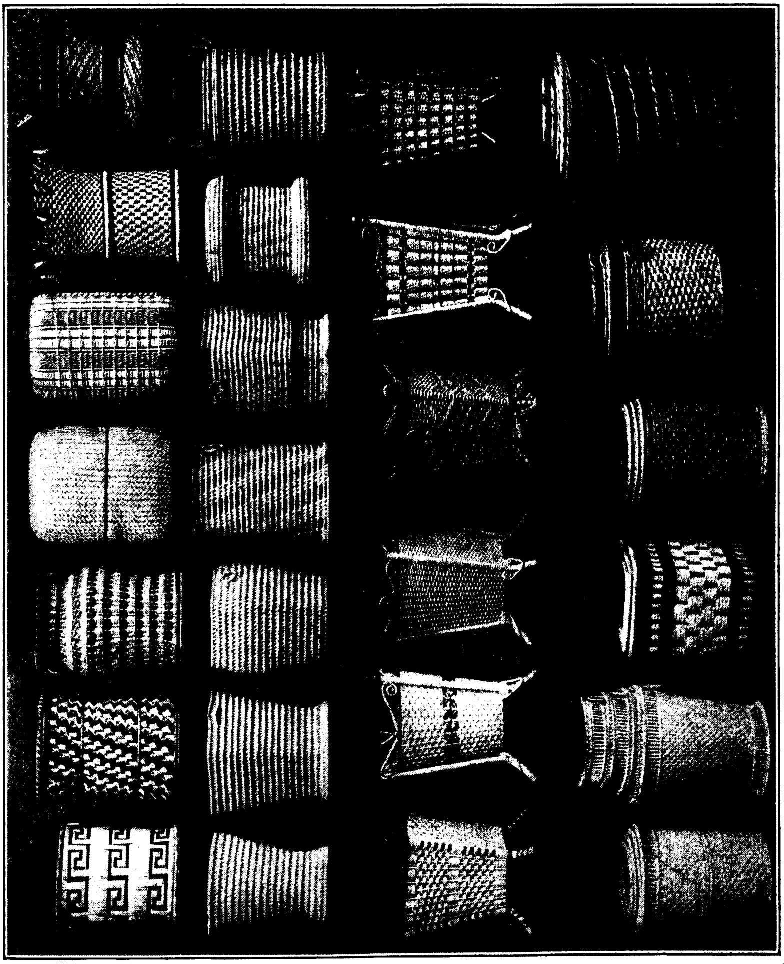


Plate XXXIV. European types of waste baskets.

This plate, as well as the three which follow, has been taken from the catalogue of the Aktien-Gesellschaft für Korbwaren- & Kinderwagen-Industrie, Lichtenfels, Bavaria, Germany.

readily in the United States and other foreign countries. In consideration of the surplus products of the schools, and of the larger output of baskets which it is hoped will some day result from the introduction of the art into Philippine homes, the

Bureau of Education is making certain investigations with respect to markets for Philippine baskets. Samples sent in exhibits to the United States have received very favorable comment; at the present time further sample lines are being submitted to several commercial firms with the object of determining types and shapes which are most desirable and the prices which Philippine baskets can bring in the open market.

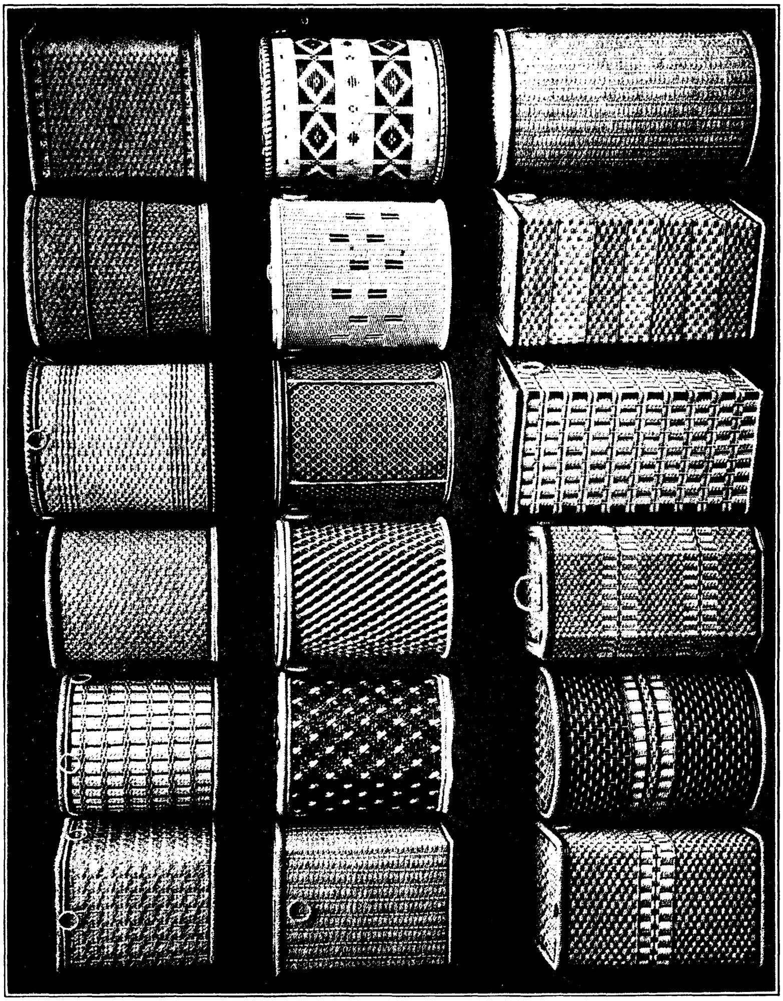


Plate XXXV. Types of clothes baskets of German manufacture.

Commercially, baskets are best made so that they will "nest;" that is, so that they will pack one within the other. This arrangement is desirable for two reasons: first, because it occupies the least possible space; and secondly, because when packed in this manner the baskets are not liable to damage in shipping. Contrary to the general opinion, freight rates on baskets are quoted by weight and not by bulk; special prices are made in this case. From one steamship company whose steamers call at Manila, a price of ₱1.50 per 100 pounds to San Francisco has been quoted. The same company charges ₱4.50 for 100 pounds

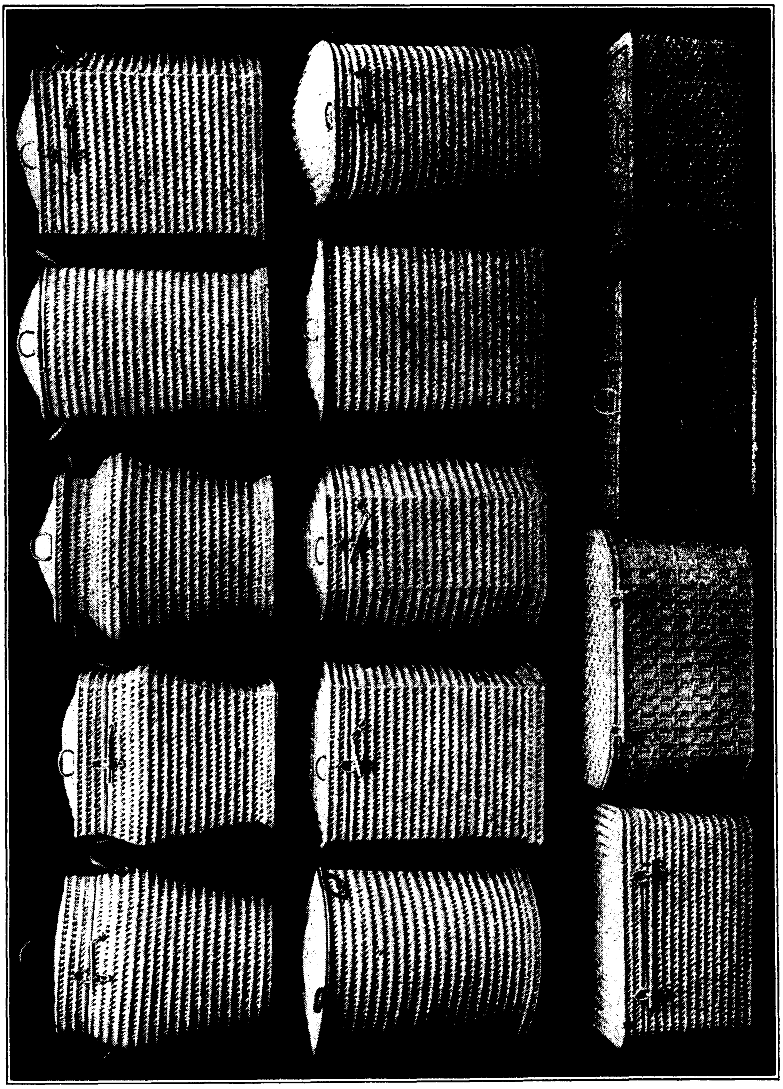


Plate XXXVI. Clothes baskets and hampers of European type.

from Manila to inland points in the United States, such as Chicago, St. Louis, New York, and Boston. These quotations are for baskets in boxes or in bales.

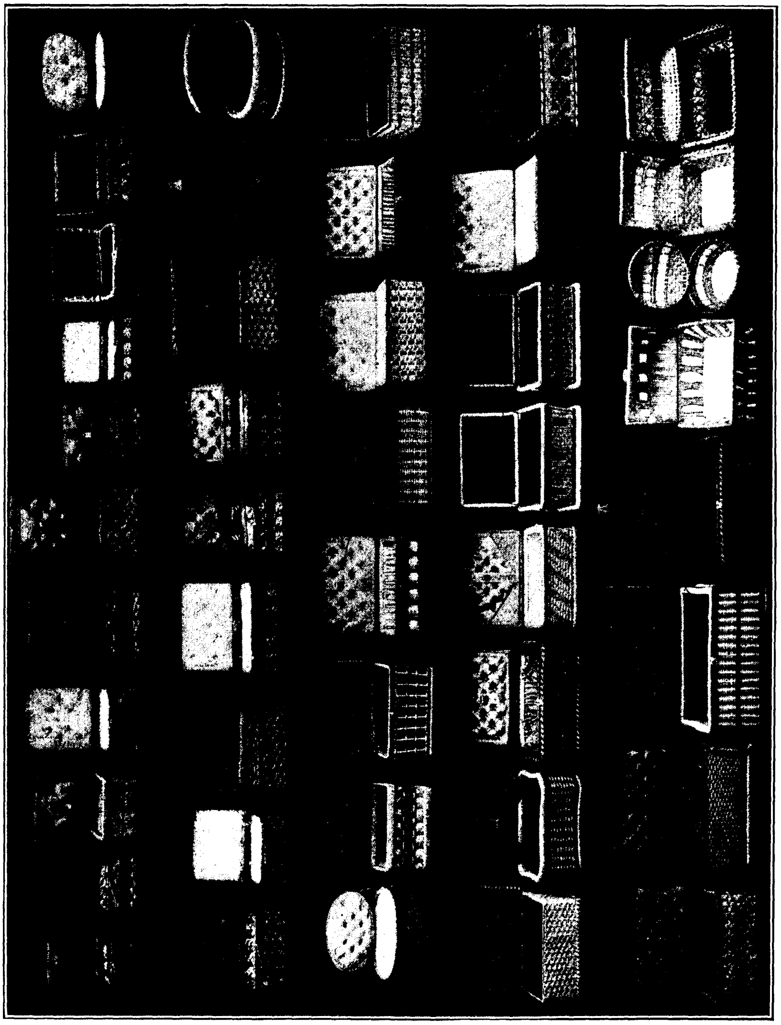


Plate XXXVII. Various types of smaller fancy baskets manufactured in Europe.

It will be noted that the baskets presented in this plate are lined. It is believed that the lining of baskets and their further equipment as fancy articles can be more economically and satisfactorily done in factories, and that no attempt should be made to prepare baskets in this manner in the Philippine public schools.

FOREIGN MODELS.

In the plates which follow there are presented many types of baskets which are manufactured by commercial concerns in the

United States and Europe, and which find a ready market in all parts of the world. A comparison of these standard foreign types with the baskets which have been developed and which are actually being produced in some quantities in the public

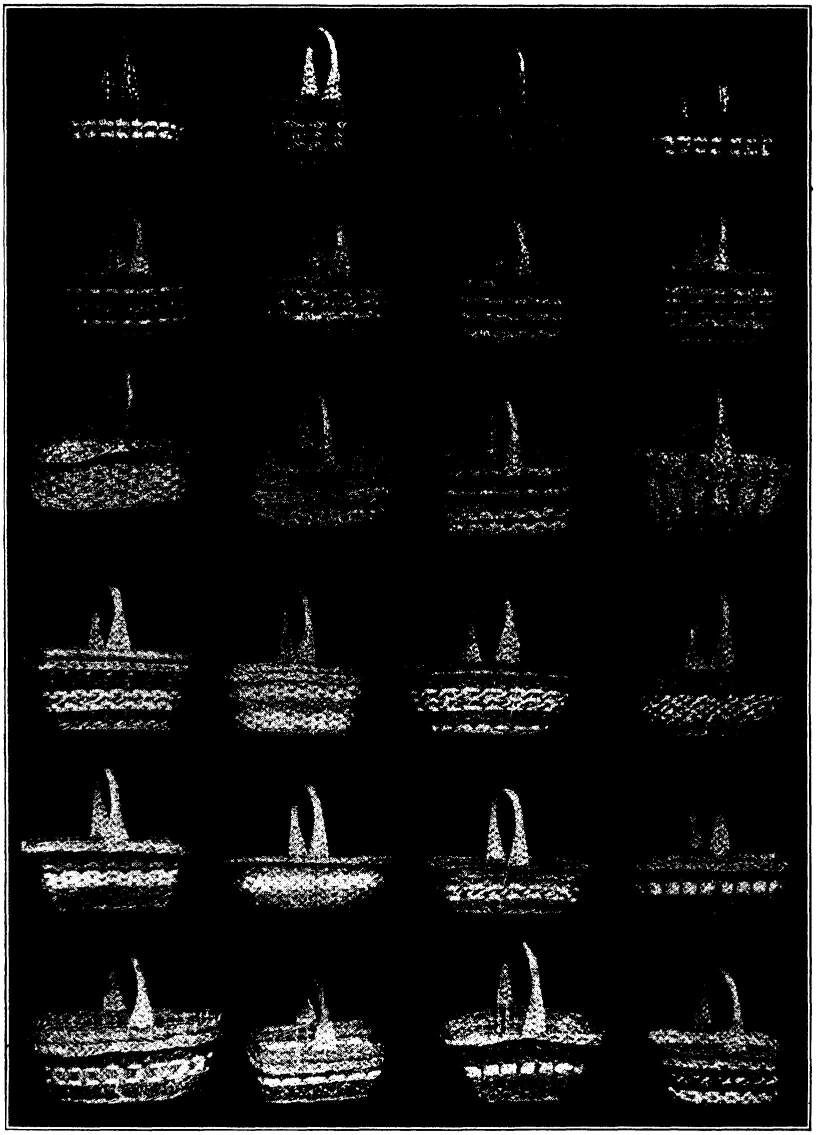


Plate XXXVIII. Types of American market or shopping baskets made of willows, reeds, and straw braids. These materials are frequently dyed in brilliant colors.

This plate and the plate which follows have been taken from the catalogue of the Burlington Willow Ware Shops, Inc., of Burlington, Iowa.

schools, and whose production will be extended as rapidly as conditions may warrant among the people outside of the schools,

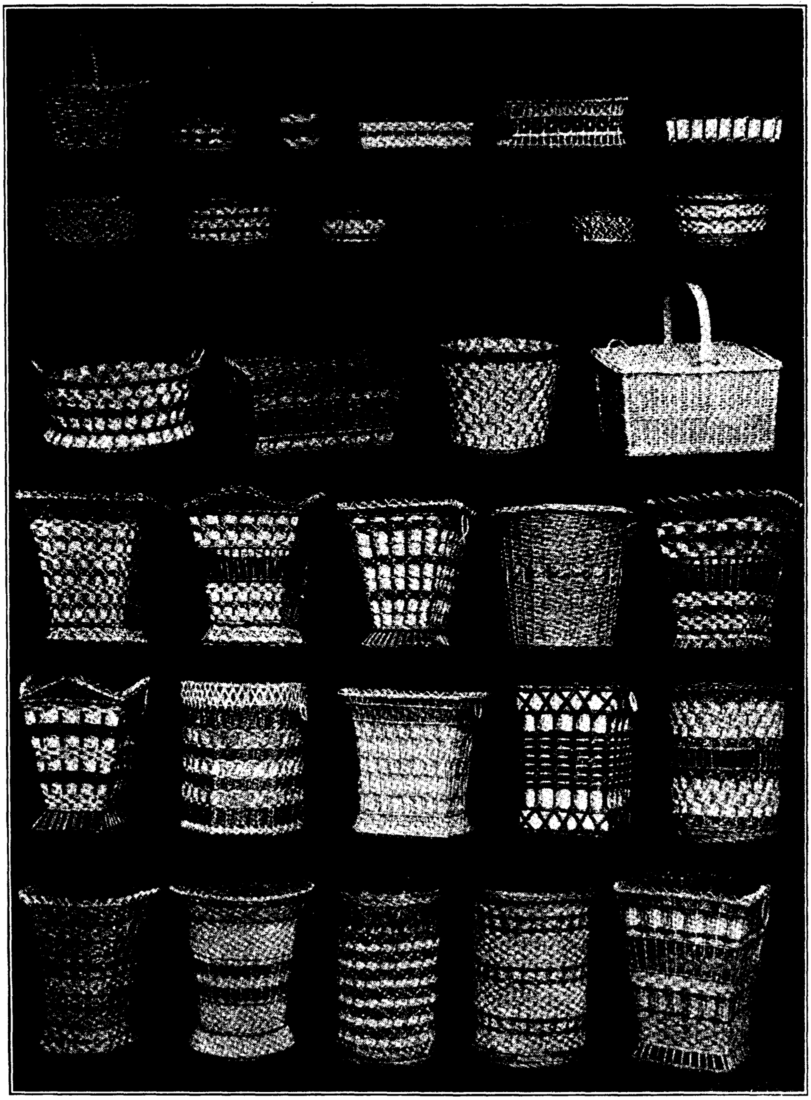


Plate XXXIX. Waste baskets and baskets of various types made of willows, reeds, and straw braids, frequently of materials dyed in brilliant colors.

From the prices quoted in the catalogue from which Plates XXXVIII and XXXIX have been taken, it is learned that such baskets sell at wholesale in the United States at prices ranging from ₱0.40 to ₱6; the average waste basket and market or shopping basket bring about ₱2. To better understand the significance of these prices in comparing foreign baskets with Philippine models, the quality of the material and the probable durability of the basket must be taken into consideration.

shows many points in favor of the Philippine article. In construction, finish, style and adornment, features many of which are made possible by the superior raw materials which the Filipino has in such abundance on every hand, it may be asserted that the Philippine basket surpasses articles which have been developed elsewhere.

One very decided advantage is the fact that Philippine baskets are made almost always in natural colors; this fact has been emphasized in the preceding pages. The many varieties of basket materials which are obtained from trees and palms, herbs, sedges and grasses lend themselves admirably to the manufacture of an infinite number of models, and the plan of adornment with natural colors only, in conventionalized Philippine designs, offers possibilities for this branch of industry which are unsurpassed.

A review of the prices which are obtained for baskets in the United States and Europe would indicate that the product of the Philippines can compete to advantage with the product of any other country. A great problem of the future is to bring the Philippine basket to the attention of merchants who will appreciate its merits, and to establish in this way an exchange which will be beneficial to the producer in the Philippines and to the purchaser in Europe or America.

The models which have been discussed in the preceding pages are recognized standard forms of Philippine baskets. From these standard types it is very probable that in every school division variations will be worked out, each of which will have its own particular merit or will be adapted to some special purpose. The foreign types which appear in these plates are offered as suggestions in models, weaves, and designs.

In many cities in Germany the expense of equipping a trade school is obviated by the introduction of "continuation schools." In these schools the academic and theoretic part of the course, with a certain amount of incidental practice work, is taught in the classroom, while the practice of actual work is obtained in the factories of the city under the direction of the classroom teacher, who takes up the problems that are met in the performance of work under commercial conditions. Students spend a portion of their time in the classroom and the balance in work in the factories. The continuation school has been adopted into the systems of a few of the larger cities of the United States.

NOTES ON THE DIRECTION AND LIMITS OF INDUSTRIAL WORK.

LUTHER PARKER, Industrial Inspector, Bureau of Education.

TO A very great extent the direction which the industrial work of the schools of the Philippine Islands may be expected to take during the next few years has been indicated by the character of the Carnival exhibit of 1911 and the exhibit at the First Philippine Exposition in 1912. In a measure also the limits which may be set for the development of school industries along several lines, the extent to which the product of the public schools can be commercialized, and the immediate assistance which the schools can give in the establishment of profitable industries among the people have been clearly pointed out by those same exhibits.

The opportunities for the development of school industrial work are limited only by the energy and ingenuity of the teaching force. The success of the work depends largely upon the teacher's ability to adjust himself to the conditions and opportunities in his own community. While as a teacher he may be excellent in his presentation of academic subjects and his services may be of great value in the building up of the character and mentality of the pupil, if he has the ingenuity to discover a successful way of using the abundant native materials which are now of little worth, thus giving to a community the means of raising the standard of living, he has given service of practical value and will reap the reward of his labors in the estimation both of the people and of the Government. Especially is this true of the supervising teacher and the teacher of industrial work.

In 1915 there will be held in the city of San Francisco in California the Panama-Pacific Exposition, which will celebrate the opening of the Panama Canal and the joining of the Atlantic and the Pacific by a water route. The Exposition will be a great fair, largely industrial in nature, at which there will be offered displays from all parts of the world, showing the resources of countries and the products of their hands and factories. The Philippines are to be properly represented at this exposition, and the schools of these Islands will have an unexcelled opportunity to exhibit to the whole world, and especially to educators, the results of fifteen years of instruction in the schools of the Islands under the practical administration of a body of American superintendents and teachers, many of whom will have been connected with the service for the full term.

That the teachers who have given the best years of their lives to the service will rise to the occasion and prepare an exhibit that will be unexampled goes without saying; and in order that the exhibit at San Francisco may be above criticism, it will be necessary to employ the intervening two years in developing and perfecting the several lines of work to which past experience has given the stamp of public approval.

This perfecting of recognized lines will in no way hinder initiative in the development of new ideas, but will be in harmony with it. There are many lines of work yet open to experiment, and some of the well-known lines need the best study of enthusiastic workers to take them out of the doubtful column.

It is evident that certain kinds of home industry are already definitely established and require but little more attention from the schools, except as to introduction into other communities, the improvement of quality or design, and lessons in marketing products in a manner advantageous to the actual producer. Such lines include hats, mats, and cloths.

The artistic element can not be ignored in industrial work if it is to be successful in the world's market. Much thought should be given to original designs based on Malaysian art as expressed for ages in the decoration of native weapons, cloths, mats, and hats. Vestiges of this art are to be found in the work of the non-Christian tribes of the Philippines, and the full expression in the work of Malays of the peninsula and contiguous isles, the Golden Chersonese and Taprobane of antiquity, who drew their artistic as well as their religious ideas from the Asiatic mainland.

In analysis, the basic principle of Malaysian art is the conventionalization of indigenous leaves, flowers, and other natural objects with an attempt, in some cases, to include classic scenes from inherited mythology. The natural element almost exclusively predominates in the native art of the Philippines, and bieng copied from a luxuriant vegetation, which due to the exigencies of plant life in the Tropics contains many vines, has a beauty of line and curvature distinctive of Malaysian art, and is æsthetically pleasing.

It is inexcusable to copy American Indian head designs for sofa pillows when more picturesque designs are abundant; and to be content to copy Mojave designs for the decoration of Philippine baskets, neglecting the distinctive designs familiar to all students of Malaysia, spells such lack of originality or initiative as to lay one open to severe criticism.

The recognition that awaits the person who successfully interprets the spirit of Malaysian art and embodies it in designs for the industrial work of the schools should be a sufficient incentive for anyone to dedicate himself to the problem for a number of years. It is a new field and extremely fascinating, and anyone who will take the time to dip into the damascening of the kris and Malay designs on cloth and metal will be amply repaid for the trouble. (See "Damascening in Steel," by T. H. Hendley, and Swettenham's "British Malaya," pp. 146, 156, 158, 210.)

As a practical demonstration of the worth of native designs over foreign in the industrial work of the schools, it is sufficient to refer to the Capiz exhibit at the Exposition of 1912, in which seven centerpieces done in exquisite colored embroidery were displayed and only one piece sold—a bamboo design in green—although the price, ₱10, was the highest. The other pieces were conventional designs of the rose, poppy, nasturtium, and violet.

In the Philippines the division line is sharply drawn between plain work, in which articles are made for everyday use in the homes of the masses, and fancy articles made for use in the homes of the few or for the world's markets. The training of the pupils to make articles for home use properly falls in the domain of primary school work, because over 90 per cent of the total enrollment is in the primary grades and pupils must there receive such instruction as will fit them to improve home conditions and make for the greater individual efficiency of the masses.

The amount of time required in which to attain the requisite proficiency in hand work to produce articles for export in competition with expert home workers of other countries naturally places such work in the intermediate schools. Pupils who can afford to continue their studies through the intermediate schools are usually able to afford some luxuries in their homes in the way of furniture, dress, and decoration, and the course of study, therefore, should be so arranged as to recognize this condition. The application of the course of study needs to be carefully considered with reference to its fitness to conditions.

To teach Igorot boys how to make narra writing desks when they must, after leaving school, make their homes in houses with dirt floors, is patently out of harmony with conditions; likewise, in the case of Igorot girls, when we consider the homes which they will from grinding necessity have to occupy yet for decades, the wisdom of teaching them how to make Irish crochet, neglecting at the same time such simple necessities as loom weaving, is open to question.

The extremes of civilization which are to be found represented in the schools of the Philippines are such that great prudence must be exercised in adapting the work outlined in the courses of study to existing conditions so as not to lead to anomalous and absurd situations. It will be a long time before "Modern Priscilla" will be found in Moro or Mangyan or Tinguian homes, though it requires no stretch of the imagination to think of it as a regular visitor to Manila homes.

People pass through industrial epochs in which certain definite conditions are inherent, and though evolution may be hurried in individual cases, history has proved that it is unwise to attempt to jump a people too far and too hurriedly over the steps in human development.

The table presented on the next page may be of interest as roughly outlining approximate conditions under which the teacher of industrial work in the Philippines must labor.

Of the four general classes here given, the industrial teacher has most to do with Class III, since the majority of the people of the Islands belong to this class. It is the great group of common people from which must be developed the strength of the nation, the workers, and, under the present government, the voters of the country. Probably between five and six millions come under this classification. To Class IV, the wealthy and influential class, probably less than a million belong, while Classes I and II will account for between one and two millions.

Four schools may be taken as typifying the four classes, namely: The schools for Negritos of Zambales and Tarlac; the schools of the other non-Christian tribes; any primary schools in the Christian provinces; the higher schools and colleges of the cities and towns.

The thoughtful teacher will not make the mistake of introducing such industrial work in his district as will obviously unfit the pupil to fill his station in life, but rather that which will fit him, by industry and application, to raise himself to the next class above, and so on up the scale.

In his enthusiasm for industrial work, however, the educator will not forget the basic principle that must guide, which is this: The development of the child into an intelligent, moral, and efficient unit of society is paramount to the development of a special industry.

The four general classes and their present status.

	I.	II.	III.	IV.
FOOD.	Wild fruits, roots, leaves and animals.	Wild fruits, camotes, bananas, domestic animals.	Rice, fish, bananas, etc.	Any food desired.
HOUSE.	Tree hut or grass hovel, one room.	Bamboo or wooden hut, dirt or reed floor, one room.	Bamboo houses, grass or leaf roof. Floor of bamboo or wood. One or more rooms.	Hard materials; several rooms.
FURNITURE.	No chair or benches; sit on heels; table, none; bed, ground or platform of reeds.	For chair, heels, log or stone; table, none or log or stone; bed, platform or hewed log.	Sit on rude benches; tables, low; bed, mat on floor; clothes receptacle, woven basket or wooden box.	Modern.
KITCHEN.	Bamboo joints for cooking utensils; leaves for trencher; fingers as eating implements.	Bamboo joints and rude clay pots for cooking; leaves and rude receptacles for trencher; fingers as eating implements.	Clay pots and a few metal pots and pans; rude receptacles for trencher, a few plates, etc.; fingers, wood and metal implements for eating.	Modern.
CLOTHING.	Gee-string of beaten bark.	Woven gee-string and loin cloths.	Shirts and pants, and waist and skirt.	Modern.
FOOTWEAR.	None.	None; sandals.	Sandals, wooden shoes, chinelas.	Modern.
WEAPONS FOR CHASE AND DEFENSE.	Bow and arrow, spear and shield.	Spear and shield, bolo, kris, blowgun, head ax.	Bolo, blowgun.	Modern.
TOOLS AND IMPLEMENTS.	Sharpened bamboo, bolo.	Bolo, wooden plow, few primitive tools and instruments.	Bolo, rude farming implements, carpentry tools and fishing implements.	Modern.
PRINCIPAL OCCUPATIONS.	Hunting, fishing, desultory planting.	Hunting, fishing, farming, stock raising, pottery, hand weaving, loom weaving.	Farming, stock raising, fishing, hand weaving, loom weaving, pottery, boat building.	Various.
INTELLECTUAL STATUS.	Pagan, illiterate, superstitious.	Pagan, illiterate, superstitious.	Christian; beginning of literacy; disappearance of superstitions.	Christian, literate.
SUITABLE VOCATIONAL WORK.	Loom weaving; plain sewing; hand weaving; cooking; pottery; ironwork; simple building; gardening.	Loom weaving; plain sewing; hand weaving; cooking; pottery; ironwork; simple building; gardening.	Loom weaving, specialized; plain and fancy needlework; plain and fancy hand weaving; cooking; ironwork; woodwork; pottery; gardening; farming.	In lower schools, same as in III; in higher schools, professions.

THE INDUSTRIAL TEACHERS' CONFERENCES, BAGUIO, MAY, 1912.

LEROY R. SAWYER, Industrial Inspector, Bureau of Education.

THE importance of conferences in improving existing technical and artistic standards and in extending them over the broadest possible area needs hardly be accentuated in the opening sentence of this brief review of the industrial meetings recently held at Baguio. They were successful, to an extent never reached before. A wider range of topics came up for discussion, a more comprehensive insight and grasp of the present industrial policy was manifest, and the sympathy and support of workers in the field was more effectively assured.

The conferences extended over a period of six days and were presided over by the Second Assistant Director, who is in charge of the general industrial program of the Bureau. To mention all the matters discussed at the various sessions would be but to repeat the pertinent parts of the course of study treating of the industrial branches given in the different grades; to say that the content, meaning, and purpose of the industrial part of the course became thereby more real, intelligible, and homogeneous would also be but to state a fact apparent to all present.

At the opening session the general improvement noticeable in the quality of our industrial output over that of preceding years was dwelt on by the Director, and encouragement was extended to the field to work with unabated strength and ardor in its further development and perfection. Particularly, the work in basketry and fine needlework came in for a warm personal tribute that will be much appreciated by those who have made this a major effort in the industrial propaganda of the Bureau. The Second Assistant Director, but recently returned from the United States after a considerable absence, commented also on the wonderful strides that had been made in all lines of industrial work given in the schools. In this respect his opinion coincides with that of many other intelligent observers and workers who absent themselves for a while and return to find imperfect, primitive, and crude school products and processes of work replaced by beautiful, finished, well-designed pieces and up-to-date methods of fabrication.

At this same session Mrs. Pearl F. Spencer, of Albay, who has made such a marked success of Irish crochet in her province, explained in detail how she had introduced this line of work in the schools under her supervision. Her story was modestly told, but back of it all is to be perceived the resolution and energy of one whose mind and heart are deeply concerned in the problems that confront her in her vocation. Others of us who wish to succeed as she has done have but to follow her example of steadfast devotion and perseverance and see that our ideals are as practically adapted to our surroundings as hers have been.

On the second day a variety of matters were passed in rapid review. Those meriting particular mention in this connection are the subjects of corn culture and domestic science in the primary grades. The necessity for disseminating a wider knowledge of the best methods of corn cultivation and the desirability of its more general use as a food have been long apparent to those conversant with the agricultural conditions of these Islands and the dietary of its inhabitants. By means of a bulletin, where the subject will be treated in full, and simple, intelligible directions given for its planting, care and preparation for food purposes, it is proposed to train the younger generation especially to a wider appreciation of the value and utility of corn, economically as well as dietetically. Pertinent extracts from the paper of Mrs. Alice M. Fuller, on primary domestic-science work, follow toward the close of this review; the gist of some of the other formal reports will be briefly touched on in the same manner.

The session of the third day was taken up by a talk on grasses, sedges, palms, roots, etc., of industrial value, by Mr. Hugo H. Miller, of the General Office. It was probably the first time that teachers in the field had ever been brought to realize the wealth of information and specimens of an industrial nature that the General Office has been gradually collecting and classifying in its policy of being in the forefront in all lines of industrial promotion. A report on accounting was also read and accepted; it is believed that the system offered will be of considerable service in introducing greater order and uniformity in the handling and sale of industrial materials, supplies, and products.

The Director of Agriculture, Mr. F. W. Taylor, addressed the members of the conference at the fourth session, rapidly reviewing some of the fundamental problems which his Bureau purposes to solve in the improvement of existing agricultural conditions, and inviting the members of the Bureau of Education to cooperate with him to this end. Those which he deemed needful of immediate attention were the following: (1) An improved dietary for the Filipino people, to be attained by a wider distribution and use of seeds, plants, and foodstuffs common to these Islands; (2) the introduction of other classes of fruit trees and better methods of cultivation of those indigenous to the Philippines; (3) more experiment stations where the best methods of plant and fruit propagation and cultivation may be seen and studied; (4) a more widespread and intelligent comprehension of the great agricultural possibilities these Islands offer; (5) the dignification of all kinds of agricultural labor in general; (6) the establishment of school nurseries where the various processes connected with planting, budding, and fruit raising shall be carried on, with assistance from employees of his Bureau. Perhaps no point of Mr. Taylor's talk was more effectively made or better received than his appeal for support and encouragement of his policy among teachers and pupils. Through the columns of the CRAFTSMAN we are happy to assure him that he did not address himself in vain to his listeners nor to those who may read this brief allusion to his talk. The closest sympathy and support of school workers is certain to follow all steps which the Bureau of Agriculture may initiate in its scheme of improving agricultural conditions in the Philippines.

The session was brought to a close by a report on the work of the Batac school farm, by Mr. W. A. V. Wiren, who has attained marked success in its management and direction.

Friday was given over to the reading of committee reports, of which there were a number. That on gardens and farms was delivered by Mr. W. A. V. Wiren and was adopted as read. Mr. J. L. Stewart presented one on imported industrial supplies which met with the general acceptance of all present. The session was brought to a close by an interesting talk on Philippine designs by Mrs. Alice T. Brezina. The subject is a comparatively undeveloped one, and the efforts of the General Office to create high standards of taste and artistic appreciation in all industrial work are sure to gradually transform and improve much of our work that to-day lacks certain distinctive elements, particularly those indicative of the place of origin and requisite local color.

The closing session also was mainly taken up with the reading of committee reports. That on primary and intermediate industrial work was first presented and accepted, after considerable discussion of some points embodied in the report. The arrangement of the daily program for intermediate grades, so as to allow pupils the freest opportunity for commercial work, provoked no little talk for and against, though the consensus of opinion appeared to favor such a plan. Information of the many instances in which the arrangement had worked successfully was offered and no serious criticism of the plan was made. Following came the report of the committee on industrial supervision and normal instruction, which was accepted without dissent. Afterwards there was some discussion on the character of the services rendered by returned pensionados, which in the main was quite favorable to their training and ability as teachers. A dual report was presented by the committee on housekeeping and household arts, one part of the committee laying great stress upon the matter of equipment and modern appliances for the best teaching of the course, whereas the other viewpoint, as voiced by its advocate, Mrs. Alice M. Fuller, favored the plan of building up and systematizing the work upon the basis of actual living conditions of the average Filipino family, with such modifications and improvements as can be gradually effected through the improved economic status of the parents of girls taking the course. A majority of the persons present favored the position taken by Mrs. Fuller, and her report was approved as presented. Another report was that on home industries, one of the most important matters with which we as teachers are concerned; for next to the successful teaching of the different industrial branches as a part of the school program is their effective implantation in the homes of the Filipino people. Something has been done along this line, but the mission of the school in promoting industrial efficiency among the home dwellers becomes more and more apparent every day. The question of marketing school products originated some discussion, and though a few localities where these nascent industries are well advanced experience some difficulty in disposing of their products, the Director voiced the opinion that this would be taken care of through the new Sales Agency and the growing interest of Manila merchants, when they shall have become more familiar with the standards and character of our school industrial output.

The final act of the session was the reading of the report of the committee on resolutions, thus terminating the most successful series of industrial conferences ever held under the auspices of the Bureau of Education. Teachers present were unanimous in expressing their appreciation of the value and importance of the conferences to themselves, and their satisfaction in having been able to assist in defining the industrial program and policy of the Bureau.

Some of the more interesting and pertinent portions of the reports are here given.

"Girls have a distinct part in the world's work, and the training that is given them in the public schools should lead as surely to their life work as the training the boys receive leads to theirs. Girls are bound to be home makers and mothers, and the aim of our work with them should be to make them complete mothers and efficient home makers.

"I know the home life of the masses as well as any of you and I understand that the bettering of the home life is a tremendous undertaking. I know it is slow work and work that will make but little showing for many years. Applause seems to be the barometer of values and no one does much clapping for the scenes of the domestic drama. Nevertheless, we who have given serious thought and study to this work know that it remains for the public school to supply educators that will raise the standard of everyday right living in Filipino homes, and it is up to us to impress the thinking people of these Islands with the importance of this work and to teach them to value truly the work that women have to do and enlist their sympathy and help in making Filipino girls want to do this work.

"The object of the school cooking lessons is to teach the girls to prepare properly such food as they eat; to cook rice and corn and pork thoroughly; to wash greens so that no insect clings to them; to boil water when it's necessary; and things of this sort. The point in cooking is to make the food as good as it can be made, but I would as soon have grasshoppers as shrimp cooked in the school kitchen. Untrained native women can be found to teach the girls cleanliness of body, house, and premises, and much of courtesy and right conduct; also wholesome native cookery and the making of their own clothes. They can teach them to sweep and dust, to care for lamps, to wash dishes, to make starch, to wash and to iron, to make pillows and comforters. And they can give lessons in marketing and economy that would astonish an American housewife.

"I would like to have the girls do some work in kitchen gardening, especially girls who have not been brought up to do the fine needlework and to be confined to the house. It would be no hardship and would save eyes and lungs and be more remunerative than either lace making or embroidery. I know there are very few places where this could be done, but I think we could overcome prejudice in time.

"Another thing I should like to see established in every primary school is the school lunch; not bread and cake and pudding, but boiled corn, roasted ears and parched corn, boiled camotes and boiled bananas, hulled corn with shredded coconut, rice cakes of various sorts such as suman, fruits in season, and bananas every day, mongos and rice, sincamas, radishes, stewed vegetables from the school garden, with rice, fried corn mush, etc." (From paper on Domestic Science in the Primary Schools, by Mrs. Alice M. Fuller.)

"In view of the universal satisfaction that has resulted from the introduction of primary woodworking shops wherever trained teachers and proper equipment have been available, the committee believes that the establishment of these shops should be encouraged in all places where conditions are favorable. Some of the main reasons for this follow:

"(*a*) It is conceded by educators the world over that the simultaneous training of the hand and eye which occurs in manual training is of great educational value.

"(*b*) The foundation of the trade course should be laid in the primary woodworking shops.

"(*c*) Boys who do not continue their course in the intermediate grades but leave school and go out to work find that this training is of great value to them at home and on the farms and also enables them to secure positions as partially trained apprentices with carpenters, artisans and contractors." (From report of Committee on Primary and Intermediate Industrial Work.)

"Schools may well attempt in regular classes to try out articles which merchants wish to introduce so as to determine whether these articles can be made in the Philippines, whether Philippine materials can be used in them, and the wages which the workers can earn.

"It is the belief of this committee that at the present time the schools in all localities possible should make articles for high-class trade.

"It is believed that the prices given to pupils for articles made by them should be fixed as closely to the market price as possible, else discouragement will ultimately result when a lower price is obtained.

"It is the opinion of this committee that the commercial extension of household industries should be carried on through local brokers by much the same system as now obtains in the hat and embroidery trades. It is realized that this system has its shortcomings in that it may result in the stifling of competition and the control of the workers by one man or family for the purpose of reducing the wages of the workers. It is believed, however, that this condition will be met by the education of these workers in the public schools. The effect of academic instruction is very important in this connection, but varied industrial instruction is as important. Pupils and workers should be taught every step in the production of a given article and should know how to make as many different articles of a certain kind as possible. Extreme division of labor will undoubtedly result in the workers' becoming mere machines at the mercy of brokers, commercial agents and exporters. If, however, workers are able to make several articles, or at least one complete article, they are less liable to control in this manner." (From report of Committee on Extension of Home Industries.)

"We believe that the most satisfactory method of instruction in housekeeping is actually doing the work of the home in such a house as the average pupil comes from. The girls should be shown how to get the best out of what they have, and better ways of doing what they have to do. The aim of the housekeeping course is to improve conditions in the house, and when we fit up a kitchen with the appliances of modern civilization we are not fair to the girls.

"In all these lessons we should build as much as possible upon what the pupils already know, and let the girls think for themselves. Let them do the exercises first and talk about them afterwards. Give them a name when they know what they want a name for, and an explanation only when it really means something to them; let us not cram them with a multitude of facts. In judging the work, the teacher should consider neatness, rapidity, and the beauty of the finished product, but most of all the educational value of the work to the girl and just what use she can make of the lesson.

"The ideal way of teaching the girls would be to work in the individual homes; but as this does not seem practicable in connection with our schools, the teacher of housekeeping will find that she comes into much closer contact with vital matters if she meets her pupils in a house as much as possible like those in which they actually live.

"The house in which the work prescribed should be done should be an ordinary dwelling house. Three rooms are necessary and four are better: one for the kitchen or laboratory where all the kitchen work except individual cooking is done, a small cookroom, a sala, and a bedroom and dressing room combined. The cookroom is almost a necessity, where individual cooking lessons are given; numerous charcoal fires burning in a room make it so hot, smoky, and uncomfortable that the doing of satisfactory work there is out of the question.

"The school kitchen should be an ordinary Filipino kitchen like the others in the town; but it must be cleaned and whitewashed, and must have plenty of chloride of lime sprinkled under it. The attention of the girls should be called to the necessity of maintaining such conditions. They should be made to understand the advantages thus gained; and if those conditions do not already exist in their own homes, they should be encouraged to establish them there. The blue-flame oil stove and the fireless cooker may be introduced and their use encouraged, if the teacher so desires.

"The principal kitchen furniture should be zinc-covered work tables, a tightly covered garbage can, the necessary cooking utensils, and the Filipino stove with chimney and hood and clay oven. As to the cooking utensils, let the girls tell what is necessary; that is, what the average family uses at home. Have enough of these utensils for the class to work with; and after they have been taught how to use in the best way the things to which they are accustomed, add to these things as the girls feel the need.

"If convenient, there may be a separate bedroom. Every possible effort should be put forth to arouse in each girl a desire for privacy and for a bedroom of her own. Such desires may live in her heart and help her granddaughter to make many changes in her home life. However, since families of this country will probably not adopt this custom for some time to come and since most of the people are bound to sleep on the floor, our immediate duty is to help the girls to find the most healthful way of doing so.

"Every step in the work should be toward increasing the necessities of the people; but action must be based upon what they already have, and increase in their necessities must come gradually as they feel the need of something different." (From the minority report of the Committee on Housekeeping and Household Arts.)

"Since it is believed that great efforts should be made to increase the production of corn in the Islands in order to increase the food supply of the people, the committee recommends that corn growing contests be instituted during the coming year in every locality where possible. These contests should be carried on in a systematic manner, every boy should be encouraged to take part and suitable awards should be given to the winners." (From report of Committee on Gardens and Farms.)

THE SCHOOL OF HOUSEHOLD INDUSTRIES.

ATTENTION has recently been invited to the very remarkable results obtained in Holland, Wurttemberg and other European countries in the general establishment of minor industries among the people through governmental action. The material prosperity of the people has been wonderfully increased by this means. The recent action of the Philippine Government in establishing The School of Household Industries for women is quite in line with this European policy and would seem to open the way to similar large results in the economic and industrial development of the country.

The last session of the Philippine Legislature appropriated the sum of ₱100,000 for the establishment and maintenance of this school in the city of Manila. Through its agency it is believed that it will be possible to introduce generally throughout the Philippine Islands within a very brief period various industries by which considerable sums of money may be added to the incomes of thousands of families. The organization, extension and administration of this new movement are entrusted to the Bureau of Education.

First attention in the curriculum of the school is to be given to embroidery and lace making. This industry was first introduced into the Philippines through the medium of church schools. In the past two years it has been widely extended among younger girls through the efforts of the Bureau of Education by means of instruction in the primary and intermediate grades of the public schools. It has been proved that Filipino girls and women are capable of becoming very expert in such work; their best product is fully up to the high standard of that manufactured in the convents of Europe.

In the fiscal year 1911 embroidery to the value of ₱130,000 was exported from the Philippine Islands. This was the product, however, of only a few hundred—or at most, a few thousand—women, and the districts in which this industry has developed to any importance are very limited. It is quite possible to extend this industry to hundreds of thousands of women throughout the Islands. The daily income of the ordinary family can unquestionably be increased through the needlework of women and older girls by 50 centavos or more; in fact, several times that amount may readily be earned in many cases.

There is an enormous world market for fine embroideries and laces. The United States imports vast quantities of these goods, as appears from the following table showing imports of cotton laces and embroideries into that country for the year 1911:

From—	
Great Britain	₱11,145,810
France	15,676,272
Germany	14,689,574
Switzerland	27,592,852
Other European countries	1,730,712
All other countries	1,014,004
Total	71,849,224

In addition, linen laces and embroideries were imported into the United States in 1911 to the value of ₱7,832,438.

That is, the people of the United States purchase annually from the people of other countries of the world nearly eighty million pesos' worth of these goods. Furthermore, it must be noted that a large import duty is collected on these materials from other countries, whereas they can enter the United States market from the Philippine Islands free of all duty, this country thereby having a marked advantage over all competitors in the trade. In the past few months, many representatives of big embroidery importing concerns in the United States have visited the Philippine Islands for the purpose of making large purchases; they have in all cases met with disappointment. The present output here is so limited that it is of practically no consequence as a means of supplying the enormous demand in the United States.

It appears that a first-class product can be produced here in large quantities, and that there is a market in the United States greater than can possibly be supplied from the Philippine Islands. The Government has, therefore, in establishing The School of Household Industries, provided means of education placing before the people of the Philippines a remarkable opportunity for commercial profit.

Under the provisions of Act No. 2110 of the Legislature, three hundred scholarships in the School of Household Industries are provided. The Director of Education has apportioned one-half of these to the various provinces, and appointments have been made upon recommendations of division superintendents of schools. Great care has been taken in the selection of women to receive instruction under these scholarships;

it is required that they be persons of character and ambition, having some natural capacity and taste for business. No specific academic requirements are necessary for eligibility, the personal qualities of the appointees solely being considered in determining their fitness.

Miss Fannie McGee, formerly supervising teacher in the Manila schools, is appointed superintendent of the new institution. At this writing approximately 130 women have arrived in the city and have established themselves in the new building on Calle Cabildo, Intramuros, where they now receive daily instruction in embroidery and lace making.

In five or six months of daily work in embroidery and lace making, the persons attending this school can become very proficient in these lines. They will then return to their homes or to other towns agreed upon between them and the Director of Education, and each woman will establish a local center for instruction in her specialty. It is desired that she gather about her a group of industrious women and girls to whom she will give the instruction which she herself will have received in Manila; and when they will have become proficient, she will employ them to work for her at fair wages. New appointees will be sent to Manila from time to time to take the places of those returning to their homes. Doubtless many women who receive their instruction in their home towns will be ambitious to establish classes on their own accounts, and so an ever widening circle of activity in household industries will be established upon a practical working basis. It is understood that every woman accepting appointment to The School of Household Industries does so with the full expectation of setting herself up in the embroidery or lace-making business upon her return home.

The Government, through the medium of either the Bureau of Education or the Sales Agency, will keep in touch with local industrial centers so established, in order to continuously communicate to them up-to-date information with respect to patterns and standards demanded by the foreign market. The necessary steps will also be taken by the Government to make it possible to purchase throughout the Islands the materials needed in this work, and to insure the prompt sale of all product which comes up to the proper standard.

They have recently spent half a million pesos on a polytechnic high school in Santa Monica, California. This is more than the Philippine Government plans to spend on its Philippine School of Arts and Trades.

In many foreign countries the first steps in industrial training in the schools follow very closely the industries indigenous to the localities. In the beginning of a system, this program is probably well and good; in the Philippines it has been followed to such an extent that even to-day in some towns pupils are taught in the schools principally the industries which their parents have followed for generations and which have perhaps been confined within the very narrow limits of their town centers. The wisdom of restricting the program in this manner is doubtful.

Again, there are occasional instances in several countries where new lines of work, introduced through schools and convents, have developed into profitable industries; the Irish crochet industry, transferred half way round the globe, is one of the important lines of hand work for women about Shanghai, and it is extending rapidly; so also loom weaving has been accepted for Igorot girls in the Philippines. In Algiers the first industrial step in the schools has been an attempt to revive the manufacture of oriental tapestry and of native embroidery, decadent Algerian industries.

Careful judgment must be exercised in the selection of industries to be emphasized in the schools: local industries which should be continued and improved; industries which should be revived; new industries which are suitable for introduction.

Peru is entirely reorganizing its public school system, and will probably include industrial training in the new organization. Complaints of lack of system in the Peruvian school administration invite comparison with the Philippine school system which, through its highly centralized and comprehensive structure, provides for such original enterprises as the introduction of a plan of general industrial training. The Philippine scheme of industrial education has been worked out through a period of less than a decade.

The movement in the cities of the United States to properly use the streets as playgrounds might be well taken up in many towns in the Philippines, since most children live in towns having little room for play. The magazine "The Playground," ₱4 per year, published monthly by the Playground and Recreation Association of America, No. 1 Madison Avenue, New York, contains much of interest for teachers who desire to take up this work.

An exhibit of industrial work from the continuation schools of Germany was recently shown in Chicago and other large cities of the United States. It was brought to the United States by Dr. Edwin G. Cooley, formerly superintendent of public schools in Chicago, who was sent to Europe to study the schools. The exhibit included products and photographs from the schools of Munich, Prague, and Frankfort.

There is no greater blessing in this world than a steady job, with increasing efficiency and hence increasing wages as time goes on; and the only way to insure that happy state for each individual is to give him the training for some skilled vocation in life, whether it be in business, in a trade, or in a profession.—PAUL H. HANUS.

A report of the occupations and progress of its graduates has been prepared by The Williamson Free School of Mechanical Trades of Pennsylvania. Of the class of 1910, which had fifty-one members, all but three are working at the trades learned in the school; of these three, two are working at mechanical drawing. Only one reports that he does not like his trade. The average wage per week is ₱33.20. The highest paid trade represented is bricklaying, for which the average wage received is ₱41.28 per week. Members of the class are bricklayers, carpenters, steam and electrical engineers, machinists, and pattern makers.

Question: To what extent do the graduates of the Philippine industrial schools follow the trades they have learned?

While the public schools and colleges aim only at teaching professions, the greatest need of America, educationally, is the improvement of industrial intelligence and working efficiency in the American youth. We need an educational uplift to craftsmanship, but the school needs the help of the workman and his better work in education. We should realize better the interdependence between our common education and our common industries. This can be effectuated only by a system of industrial schools, differentiated from the manual training schools, which shall actually train workmen for the trades and at the same time give them a broader mental culture.—SAMUEL GOMPERS.

EDITORIAL AND OFFICIAL.

THE PHILIPPINE CRAFTSMAN, with this issue, enters the field of industrial education. It is to be the chief agency employed by the Bureau of Education in promoting its program of industrial instruction throughout the Philippine school system.

The Philippine Craftsman.

This Bureau has been passing through a period of experimentation. The administration has not professed to be endowed with omniscience with respect to Philippine industrial teaching. It has, however, been thoroughly convinced of the necessity for the extensive development of a practical scheme of manual instruction, and has devoted every resource to the framing and promotion of acceptable plans of work. By means of official bulletins and circulars, conferences of supervising and industrial teachers, conventions of superintendents, supervision of inspectors and special instructors, and chiefly through the agency of industrial exhibitions, the cause of manual instruction has been effectually promoted. Teachers and supervisors have been encouraged by all possible means to formulate and give expression to their theories. Every legitimate incentive has been offered to the exercise of originality and initiative, and, particularly in the past year, innumerable suggestions with respect to the organization, procedure, and standards have been put to test and proved in the schools throughout the Islands.

The progress has been substantial. We are convinced that the aims and methods of the established system are approximately correct, and we have observed with much satisfaction the increasing efficiency of the large corps of industrial supervisors and teachers. There has been developed a program of industrial education which may be definitely adopted and, with minor modifications, pursued for some years to come.

The time has now arrived when some systematic means must be employed by the Bureau of Education to convey to its entire personnel information regarding its latest achievements and instruction as to approved standards. Through THE PHILIPPINE CRAFTSMAN the forty division superintendents of schools, the four hundred supervising teachers, and the nearly nine thousand other members of the Bureau's teaching force will be promptly informed of the methods employed and the results secured in every industrial experiment which is carried to successful issue in any public school. By this means, new industrial processes will be advertised and introduced throughout the school system, and the industrial program of the Bureau will be enriched and strengthened.

The columns of THE PHILIPPINE CRAFTSMAN will be open to extended discussions upon special lines of work, notes upon experiments which by reason of their success or failure are of general interest, statistical tables, reviews of industrial books and magazines, articles relating to the general subject of manual instruction, and statements with reference to Philippine economic conditions and industrial activities generally.

The New School Year.

The school year 1912–13 opens with every prospect of its being the banner industrial year of the Bureau of Education. It seems certain that greater advance will be made during the coming twelve months than in any previous similar period in the Bureau's history.

The Bureau has been giving much attention to the gathering of data upon industrial conditions throughout the Islands. Approximately 150 teachers have devoted a considerable portion of their time in recent months to this important matter. Their reports have all been received and are now being reviewed, digested and compiled. As a result the Bureau of Education has in the General Office a mass of information in accessible form upon present Philippine economic conditions such as has never been previously accumulated by any other agency. A portion of this material is to be arranged for publication in textbook form for high-school use. It will serve an even larger purpose, however, as a source of reliable information upon which the proper trend of the program of industrial education may be determined.

In connection with the above the Bureau has been concerned in the building up of a museum of industrial instruction, in which botanical specimens of all serviceable industrial materials are gathered and carefully prepared for use and file. In this museum are also installed samples of the best articles produced in each line of endeavor, and these are of inestimable value as a means of comparing the work of the different divisions and advising teachers and superintendents with reference to improvements which should be made.

Many teachers have acquired a high degree of efficiency in their specialties, supervisors are qualified as never before to give advice and instruction in their respective fields, and the General Office feels itself prepared to give intelligent direction as to industrial methods and processes which have heretofore been largely experimental.

Much attention has been given recently to the organization of the woodworking shops of trade and manual training schools, and these institutions now handle their work upon a business basis and turn out a large and creditable product.

School gardening has been definitely incorporated into the school program and is now generally introduced into all primary schools throughout the Islands. There is ample evidence that substantial results have been secured, not only in the teaching of a valuable lesson of industry but in the betterment of the diet of the people in many communities. Advanced agricultural instruction, which has heretofore been the subject of extended experiment, is assuming acceptable form. Several school farms have been in satisfactory operation during the past year and others are being established.

Various minor industries have passed beyond the experimental stage and are now ready for general introduction upon prescribed standards and in accordance with methods and models which have proved satisfactory.

The system of industrial supervisors is a most effective means of advising the Director of conditions existing in the field and of informing the supervising and teaching force of the details of the Bureau's industrial program. Several new supervisors are being selected from among the most successful provincial teachers and they will be sent out from the General Office on special inspection work during the coming year. In pursuance of the same general plan a local industrial supervisor is being selected in each of the larger provinces who will assist the division superintendent in standardizing the industrial work of the division in the capacity of traveling teacher and supervisor.

Through the establishment of carefully organized courses in the Philippine Normal School and the Philippine School of Arts and Trades, and through instruction in the annual provincial institutes, a very large number of Filipino teachers are receiving thorough training in various school industries.

A recent important department has been established in the organization of The School of Household Industries, where several hundred women, selected from all provinces in the

Islands, are to receive instruction in embroidery, lace making and other arts, with the expectation that they will return to their homes to establish local centers of industry. It is confidently anticipated that this enterprise will result in the general establishment throughout the Islands of minor industries which will in course of time bring large revenues to the people of the Islands.

Several important industrial publications have been issued during recent months and others are now in process of preparation for the printer. These are of infinite value as a means of establishing and advertising approved industrial standards. It is believed that THE PHILIPPINE CRAFTSMAN will be perhaps the most valuable of all the Bureau's publications.

As stated above, it seems certain that the results of the year upon which the Bureau is now entering will be substantial.

The Annual Exposition of the Bureau of Education.

Reference has been made elsewhere in this issue to the value of industrial exhibitions as a means of promoting the Bureau of Education's program of manual instruction. Chief among these have been the so-called Carnival exhibits which have occurred annually in the city of Manila for some years past.

In 1912 the pupils of the Philippine School of Arts and Trades constructed the Bureau of Education building for the Philippine Exposition. It had 18,000 square feet of floor space and in it were displayed approximately 16,000 articles, representing every school division in the Islands except one.

The exhibit was visited by probably more than 100,000 persons, very many of whom examined the display with great attention and interest. The public purchased ₱25,777.08 worth of articles, most of the sales being made during the first two or three days. The valuation of the articles sold was 75 per cent of the total value of the exhibit.

The standard of workmanship in this exhibit was high in all its various departments of furniture construction, iron working, basketry, slipper making, lace making, cookery, hat making, mat weaving, and wheelwrighting.

The exhibit was officially visited and critically examined by all division superintendents of schools, by approximately 60 industrial teachers and supervisors, and by several thousand other teachers, and every one of these men and women carried back to his station definite and correct ideas as to approved models and methods in the various industries represented.

The Government does not have funds available for a Philippine Exposition in 1913. The annual exhibit has come to be an essential feature, however, of the industrial program of the Bureau of Education. The Bureau cannot afford to skip a year in the series of its expositions. It is fully determined that, regardless of the plans of the general Government, a school exhibit will be held as heretofore at or near the end of the school year.

In this connection it should be said that the Bureau of Education is much concerned with the proposed representation of the Philippine Islands at the Panama-Pacific Exposition which is to occur at San Francisco in 1915. It seems perfectly feasible to send to San Francisco a well-organized and thoroughly up-to-date exhibit of articles manufactured in the public schools, which will be representative of industrial instruction in these Islands. This collection should have a value of ₱100,000 or perhaps even ₱200,000, and will be fully up to the highest commercial standards of workmanship.

Filipino Designs.

The subject of distinctive Filipino designs for many of the articles now being made in industrial classes is a most attractive yet to date singularly undeveloped one. Consider the amount and variety of pieces, such as fine sewing, coil baskets, mats, etc., now being made in all our schools, and one is surprised at the lack of applied design typical in any way of the country wherein the articles are made. Pieces like those mentioned above, for their most artistic appearance and fullest intrinsic merit, require the elaboration of designs in a characteristic way that typify the country of origin and the artistic symbols and aspirations of the maker. Our work in this particular has been, to date, a rather slavish patterning after occidental forms and designs, accepting with little modification or change that which comes to us from America or Europe.

Something national, *Filipino*, is wanted, to give much of our handicraft work that distinctive mark and characteristic that typifies the best artistic productions. This quality is unmistakable in all handicraft art of Japan, India, Persia, and many European countries. The teachers and pupils who shall evolve and create pleasing, artistic, and distinctive designs for much of our handwork will render a signal and timely service. Existing conditions, if the signs be not misread, speak with significant meaning to those of us who have a professional mission to fulfill.

There is not a lack of material for this nascent sentiment of Filipino design. The amount of flora, distinctly tropical or Filipino, details of natural features, customs, dress, articles of use, etc., that could be used for the purpose, is considerable.

When shall we have this needed improvement, this "renascence" of Filipino design that the times insistently call for? It will come, undoubtedly, sooner or later—certainly "sooner" if those who have the intelligence and training to work up the subject address themselves resolutely to it.

The following procedure for the sale and distribution of THE PHILIPPINE CRAFTSMAN has been decided upon:

The selling price has been fixed at ₱0.60 per copy, or ₱3 per year for the nine numbers which will be issued during the school year, postage prepaid in the Philippines and United States, and other countries which come under the same postal regulations; to other places the rates will be ₱0.70 per copy and ₱4 per year.

The distribution of the official copies of the CRAFTSMAN will be arranged by this office, and division superintendents and teachers will be advised of it. Personal subscriptions should be arranged by writing to the Director of Education through the division superintendent of schools, inclosing the amount of the subscription. Accounts for subscriptions will be handled officially by the accounting division of the General Office.

Teachers whose work is in any measure industrial in character will be held officially responsible for familiarity with the material embodied in this magazine. It is anticipated that the majority of the supervising, industrial, and class-room teachers will wish to take out subscriptions to the CRAFTSMAN at their own expense, in order that they may retain permanent files of the magazine. Copies supplied upon this basis will, of course, be personal property.

The United States Bureau of Education is doing a notable work for education through the numerous bulletins which it is issuing from time to time. These bulletins have to do with every phase of educational activity and serve to keep those interested in our schools in touch with the latest results of both investigation and experiment. They are issued for free distribution and may be obtained upon request to the Bureau of Education, Washington, D. C.

"The territory known as Cochin China has six 'professional' schools, one in Saigon with 60 scholars, one each in Thudaumot, Bienhoa, Sadec, Hatien, and Cantho. The teachers, at least in the professional school at Saigon, come from the School of Arts and Trades of France. Instruction is given in iron and wood working, embroidery, incrustation on wood, jewelry, and work in tortoise shell. The woodworking includes carpentry, cabinetwork, sculpture, and carriage making. The students in these schools are all foundation scholars, supported by the Government."

From this statement, which was contained in a paper prepared for this office by the American Consul at Saigon, it would appear that these schools are organized somewhat on the plan of the Philippine School of Arts and Trades or one of the larger provincial trade schools. There would seem to be no industrial training preparatory to these "professional" courses, nor any industrial program for the common schools.

There is no place in the modern world for the unskilled; no one can hope for any genuine success who fails to give himself the most thorough technical preparation, the most complete special education. Good intentions go for nothing, and industry is thrown away if one cannot infuse a high degree of skill into his work. The man of medium skill depends upon fortunate conditions for success; he cannot command it nor can he keep it. The trained man has all the advantages on his side; the untrained man invites all the tragic possibilities of failure.—H. W. MABIE.

"A Handbook on the Sugar Industry of the Philippine Islands," by G. E. Nesom, H. S. Walker, and others, containing much valuable information on that important industry, has been published by the Bureau of Agriculture and may be purchased, in either English or Spanish, for ₱4 per copy. A smaller book on the same subject, "The Sugar Industry of the Philippine Islands," is published in English and sold for ₱1.50. Orders should be addressed to the Director of Agriculture, Manila.

Local industries constitute an important topic for study. A consideration of them puts the child in touch with his surroundings and furnishes a good basis on which to build a knowledge of broader industrial questions. (Selected.)

INDUSTRIAL NOTES.

The opening of the present school year finds the following industrial teachers attached to the General Office of the Bureau of Education: Mr. Bruce Ingersoll, inspector of trade schools, devoting special attention to the provincial woodworking shops; Mr. Luther Parker, industrial inspector; Mr. Leroy Sawyer, industrial inspector, devoting special attention to municipal woodworking shops; Mr. North H. Foreman, inspector of school gardens and sites; Mr. John F. Minier, industrial supervisor with traveling exhibit; and Mr. O. S. Hershey, inspector of machinery.

Mr. H. E. Cutler, the industrial supervisor who visited the provinces during the last school year in connection with the traveling industrial exhibit, is now on leave of absence in the States and it is not certain when he will return. Mrs. Carrie E. Anderson, who has been attached to the General Office as industrial supervisor, has been given permanent station in Bulacan.

In connection with the general program for visits of industrial supervisors and inspectors to the provinces, a plan has also been worked out whereby it will be possible for the General Office to furnish a number of Filipino industrial assistants well qualified along certain special lines. In some cases the Filipino assistants will accompany industrial supervisors; in other cases they will be sent out on special detail to provincial normal institutes; and in others they will be assigned to school divisions for a period to assist division superintendents in organizing work along their own particular lines.

Itineraries covering the general program of industrial supervision from the General Office have already been worked out. It will still be possible to furnish special assistance in most cases where it is desired, and division superintendents are asked to present their needs to the Director.

At the opening of the present school year in June the Director of Education named a number of industrial supervisors for the various school divisions of the Islands. Wherever it was possible to do so, one supervisor was designated for each division. The work which has been done along industrial lines during the past year has developed a very efficient corps of instructors in certain localities. The problem of using the particular training and knowledge of these specialists has made it seem advisable to place them in a position in which their work will be at least as wide as the school divisions to which they are assigned. Working in coöperation with the division superintendent, they will have general charge of the direction of industrial work for the division, the distribution of industrial information, the collection and identification of materials, the arranging of programs and the handling of exhibits. In another way the work of the industrial supervisor may be far broader than the limits of the school division in which he is located, and those who will may find an excellent opportunity for rendering valuable service to the Bureau and to the Islands by investigations and experiments which they may make. The natural medium for the distribution of such information will be in the columns of THE PHILIPPINE CRAFTSMAN, and one of the duties of industrial supervisors will be the submission of monthly statements covering the industrial operations of the divisions in which they are located, including such notes, suggestions, and prepared articles as they may have to offer.

The Bureau of Education has taken another step in the campaign for a better food supply for the masses of the people. Although corn contests are quite common in many parts of the United States they have never yet been tried on an extensive scale in the Philippines. With the opening of the present school year teachers and pupils all over the Islands are being asked to take part in a corn contest which will be conducted by the Bureau of Education, and the provisions of the contest are being given publicity through instructions issued by the General Office. This is the pioneer movement of its kind in the Orient.

Corn is known in all parts of the Islands and is used as a human food to some extent. However, the acreage devoted to corn is very small; the total production of corn is very inconsiderable when compared with the rice crop; and the production per acre is surprisingly low. These conditions need not be so; the introduction of modern methods of seed selection and cultivation will increase the yield enormously, and the emphasis which is now being given to the growing of corn should have the effect of interesting the people all over the Islands in the possibilities of corn as a food. The present school contest is expected to accomplish a great deal in the campaign. It is hoped that by fostering the growth of corn and by spreading information as to its uses, much land which is now idle will soon be producing, and the critical seasons between rice harvests, when lack of food is no uncommon thing, and those too frequent periods when drought and consequent rice shortage mean hunger and famine, will be unknown.

There will soon be ready for distribution a new pamphlet on corn, prepared in the General Office, which will contain essential instructions on corn growing and will tell many of the appetizing ways in which this cereal can be prepared as a food. The pamphlet will be sent out quite generally and teachers and pupils will be called upon to bring the information contained in it to the attention of the people. Also, copies of Duggar's Southern Field Crops have been sent out to each school division. Much helpful information can be secured from the chapters devoted to corn; it contains many useful passages which will assist in judging the difference between good and bad seed corn.

Every school will be expected to have entries in this contest. Teachers should secure their seed corn and be ready to plant as soon as the conditions of the contest reach them. The contest will be a school affair and each corn plot which is entered must be supervised by a teacher. Suitable awards have been provided for the winners of the contest in the several school divisions, and the results obtained will be given due publicity.

For several years past the Bureau has distributed garden seeds for school purposes. Following this practice a limited supply of seeds has been purchased for the present school year and will be ready for distribution about the middle of September. Seeds may be purchased in the local market to supplement the supply furnished by the Bureau.

Most of the seeds which will be distributed by the Government are for plants which have been but recently introduced here; but while they are receiving due attention, the vegetables which are common to the locality should in no wise be neglected. Cultivation will often produce a marked improvement in the common native vegetables; frequently such improved native vegetables are better in quality than those raised from imported seed; and almost invariably plants from imported seed so deteriorate before they become acclimated that new seed must constantly be introduced.

The school garden may be producing every month. During the months which are considered too wet for the successful cultivation of foreign vegetables, pechay, lettuce, mustard, endive, and other plants grown for their leaves thrive well and the time may be .utilized in the planting and cultivation of native plants. The seeds distributed by the Bureaus of Education and Agriculture are chiefly imported seeds and soon become infertile unless they are carefully preserved or planted as soon as they are received. Garden seeds deteriorate very rapidly when exposed to the warmth and moisture of a tropical country.

In the preparations which were made for the educational features of the fifth Teachers' Vacation Assembly, held in Baguio during the months of April and May, more than usual attention was given to the subject of industrial instruction. Each year there are evolved in the industrial classes of the Bureau many ideas and models of unusual merit. The problem of spreading correct information on them finds one ready solution in the annual teachers' assembly at Baguio. In so brief a period and under existing circumstances no attempt could be made to teach even a considerable number of the many lines of work which are followed out in the schools and only those newly-developed features which seemed to offer exceptional opportunities were treated. The courses given included the following lines: basketry, hand weaving, hemp work, Irish crochet, lace and embroidery, and domestic science.

The teachers who had charge of these several branches were experts in their lines; they were assisted by a corps of Filipino industrial teachers who understood their work thoroughly. Material for practice work was provided by the Bureau and a regular course of instruction was carried out. In all cases exhibits of the latest improved models and patterns were on display throughout the session.

The course in basketry was under the direction of Mr. Horace E. Cutler, under whom the now famous Polangui baskets were developed in the town of that name in Albay Province. Instruction covered the Polangui baskets, coiled baskets of various sorts, hexagonal weave baskets, and the Zambales baskets. Mr. John F. Minier had charge of the course in hand weaving, which included the making of mats, pocketbooks, doilies, cushions, and numerous other useful small articles. The newly-introduced abacá work, which seems to offer such unusual possibilities as a school industrial line, was under the direction of Mr. Joseph H. Loughran. Instruction was given particularly in macramé bags, lace bags, footstools, hand bags, cushions, and slippers. The dyeing of abacá fibers was also given attention. Mrs. Pearl F. Spencer was in charge of the work in Irish crochet. Her course was a very popular one. The course in lace making and embroidery was conducted by Miss Fannie McGee and her assistants. Mrs. Alice M. Fuller gave a series of talks and demonstrations on domestic science work among Filipino girls.

The enrollment in all of these classes was good. A large number of the men and practically all of the women took at least two of these courses. As examples it may be stated that 95 teachers enrolled during the season in the course in hemp work and more than 40 women took advantage of the opportunity for learning Irish crochet. It is expected that notable and prompt results will be realized from these courses given at Baguio.

Immediately after the close of the exhibit at the First Philippine Exposition in February, in which the Irish crochet exhibit of Mrs. Pearl F. Spencer, of Tabaco, Albay, had been the subject of unusual attention, at the request of the Director of Education Mrs. Spencer embarked for Shanghai, China, to make an investigation of the Irish crochet industry at that center and particularly at the famous Siccawei Convent. The object was to discover the methods which are followed in giving instruction in this branch about Shanghai, the plans for the extension of the industry among the people and for keeping them in touch with the most up-to-date requirements along these lines. to secure samples of the most recent designs, patterns, and materials which are used in the Chinese work, and to find out something about the prices and markets for the goods. While in Shanghai Mrs. Spencer inspected very carefully the work of the women at the Siccawei Convent. She discovered that much of the Irish crochet is now made in the interior of China, where the industry has spread from Shanghai, and that the product is handled by brokers in the city. Before she left on this trip she was authorized to purchase a number of samples of work which she thought would be useful in carrying on the instruction in the Philippines; her purchases, amounting to ₱319.25, included collars and cuffs, fancy yokes with collars, jabots, hats, bags, baby bonnets, etc. Upon her return, the sample articles which she purchased were placed on exhibition at the Teachers' Camp in Baguio and at the close of the session they were taken into the Bureau of Education museum, of which they now form a part. They will be used as may seem best for the furtherance of instruction in Irish crochet work in the schools.

During the past vacation the first step toward introducing into the homes of the people an industry which has been developed successfully in the schools was taken in the Province of Albay. This was in the introduction of Irish crochet among the people. It has been demonstrated that Filipino women can become expert in this work and that they can earn from ₱0.80 to ₱1 per day at it. The market for the goods which can be produced is ample, and with the industry in the stage which it had reached by the close of schools in March it was thought that an excellent opportunity existed to make here the first experiment at extending the work of the school girls among the townspeople.

Authority was granted by the Director of Education for the appointment of a number of temporary Insular teachers to conduct classes in Irish crochet for adults during the long vacation. These teachers were chosen from among the most apt pupils who had been developed by Mrs. Pearl F. Spencer in her work during the year. The classes were organized under the direction of Mrs. Spencer, who had just returned from Shanghai, where she had investigated the methods for carrying on this sort of work in that center. The first class was established in the town of Tabaco, and the work was later extended to other towns of the Province of Albay, until 12 teachers were employed in this manner. Pupils of the public schools were not admitted to these special classes. The aim was to select those women who would take up the work immediately in their homes in order to secure an income for the support of themselves and their families. Four days after the classes were started there were 300 women enrolled in them in ten different municipalities.

In order to stimulate special interest in the work a public meeting had been arranged for the town of Tabaco, at which some ₱2,000, which was the share of the Tabaco girls in the Irish crochet sales at the Exposition, was distributed among the girls of the intermediate and primary grades. At the same time the proposed special vacation class for adults was explained to the people, who, with such concrete evidence of the success of Irish crochet work before them, would appreciate more fully the value of the new household industry which was offered to them.

For a result of these summer classes and the adoption of Irish crochet as a household industry among the women, Mr. G. W. Caulkins, who was the division superintendent of schools for Albay at the time, looked forward to exports of Irish crochet articles from Albay to the value of ₱100,000 during the year beginning July 1, 1912.

A METHOD OF DYEING NITO BLACK.

As a rule the nito stem is not uniformly black; it is generally much darker at the butt end than toward the tip; again it is often streaky, with greenish-white lines running lengthwise. This irregular and uneven color is a serious detriment in its employment for basket work. To remedy this, dyeing and smoking are frequently resorted to. The following is a process which will give successful results:

Take a young coconut about half grown (the green, not the red variety) and cut it into small pieces. Secure a cross-section of sapang (*Sibucao*) wood—a piece of the trunk is best—about a foot long, and split it lengthwise into thin pieces. Place both chopped coconut and sapang strips in a pot or can, with about a gallon of water, and boil for half an hour. Then take the nito and place it in the solution, boiling for about twenty minutes. Afterwards remove the nito and bury it in moist mud, where it should be left for half a day. It may then be removed and cleaned by washing. It will be found to have a deep, jet black color.

Rattan, bamboo, and banban may also be dyed in the same manner.

As a substitute for the mud bath, lime may be employed in the dye mixture. A small amount should be added to the dyeing solution after the coconut and sapang have been boiled together and the material then placed in the solution and boiled. As a rule, this method will give as satisfactory a color as the first.

At various times during the last few months letters have been received from Mr. George N. Briggs, representative of the Director of Education in the United States in the selection of new teachers, as to the disposition which has been made of the exhibit of industrial work from Philippine schools which was sent back to the United States to be exhibited at the Mohonk Conference. Due to unfortunate delays in shipping at San Francisco, the exhibit did not reach the Mohonk Conference as intended and failed in its initial object. However, Mr. Briggs himself took charge of the exhibit and had it placed on display in a number of educational centers. As soon as this work of the Philippine schools was brought to the attention of the public there was at once a great demand for the exhibit as a feature of several of the prominent educational institutions and gatherings of the year. The high class product and the possibilities for its further development created quite a sensation; the work was far superior to anything which has yet been produced by public schools in the United States. At the conference of the National Society for the Promotion of Industrial Education, held in Cincinnati in 1911, a gathering which was attended by the most prominent educators from all parts of the United States, the exhibit received marked attention and was the subject of much discussion.

Perhaps the most notable attention which the exhibit received was its display during the months of February and March at the Teachers' College of Columbia University in New York. The various articles were displayed in nine exhibit cases and the university issued a 6-page folder describing the exhibit in considerable detail.

In this manner the work of the Philippine schools has been brought before the educators of the United States in a very concrete manner. This exhibit, which continues to be known in this office as the Mohonk exhibit, is still in the United States in charge of Mr. Briggs.

The Director of Agriculture has stated that it will be the policy of the Bureau of Agriculture again this year to supply seeds generally upon individual requests to teachers and pupils of the public schools. During a portion of the past year as many as 1,000 requests per month were filled; many of these were from pupils of the public schools.

In taking advantage of this offer of the Bureau of Agriculture for the coming school year, teachers and pupils should remember that collection V–2 as noted below is supplied to teachers and collection V–6 is intended for pupils. The other collections are for farmers with one hectare or more of land under cultivation, and will not, as a rule, be furnished to other persons. In every case the name and address of the applicant should be clearly written. The letter of request should state whether the writer is a teacher, a student or a farmer, and what collection is desired. All communications should be addressed to the Director of Agriculture, Manila.

The following is a complete list of the various collections of seeds distributed by the Bureau of Agriculture:

V–1 (*for coöperating planters*).—Beans, beets, cabbage, carrot, eggplant, endive, lettuce, mustard, okra, onion, pechay, pepper, radish, tomato, turnip, papaya, peas.

V–2 (*for teachers and planters*).—Beans, beets, cabbage, carrot, eggplant, lettuce, mustard, onion, okra, pechay, radish, tomato, turnip, peas.

V–3 (*salad vegetables*).—Condol, endive, lettuce, mustard, pechay, pepper, spinach, squash, parsley, peanuts.

V–4 (*for hacenderos*).—Batao, bean, Lyon bean, corn, mongo, cowpeas, patane, sorghum.

V–5 (*forage seeds*).—Italian rye grass, billion-dollar grass, molasses grass, Colorado grass, Lyon bean, sumac sorghum, redtop, new era cowpeas, Natal grass, Rhodes grass.

V-6 (*for students*).—Lettuce, pepper tomato, eggplant, peas.

V-7 (*forage roots*).—Guinea grass, Paspalum grass, and Para grass roots.

V-8 (*foreign exchanges*).—Lyon bean, seguidillas, patane, batao, tobacco, squash, condol.

The Director of Agriculture states that roots of guinea grass, which is a valuable forage plant, will be furnished in small quantities free upon application. For enough roots to plant one hectare of ground a charge of ₱15 will be made.

The Bureau of Agriculture announces that a fresh supply of Hawaiian papaya seed has been received and is ready for distribution. When requested, Circular No. 6, on Cultural Directions for Papaya, will be sent with the seeds.

A recent introduction of the Bureau of Agriculture is the roselle, a plant which, though known in Java 250 years ago, is only now finding its way into the Philippines. It is used chiefly for jellies and preserves and strongly resembles the cranberry. It is very simple and easy of cultivation. Seeds of the roselle may be obtained from the Bureau of Agriculture free upon application by anyone interested in it; printed directions for planting will be included with each package.

Referring to the tendency of teachers and pupils to produce articles of too varied types and designs, the division superintendent for Ilocos Norte states in a circular: "The Bureau is trying to standardize industrial work, but it can never do so while pupils are allowed to follow their own fancies as to what they are to make. * * * if 100 whips or baskets are made of uniform size, shape, design, and workmanship, and of the same materials, the supervising teacher can sell the bunch at a uniform price and secure buyers by furnishing a single sample." In Ilocos Norte types which have not already been recognized as standard must be submitted to the division superintendent for approval before they may be extensively taken up.

BUREAU OF EDUCATION PUBLICATIONS.

(Abbreviated list.)

ANNUAL REPORTS:

Eighth Annual Report of the Director of Education, 1908. (Supply limited.)
Ninth Annual Report of the Director of Education, 1909.
Tenth Annual Report of the Director of Education, 1910. (Supply limited.)
Eleventh Annual Report of the Director of Education, 1911.

BULLETINS:

5. Notes on the Treatment of Smallpox.
10. Government in the United States. Prepared for use in the Philippine Public Schools.
24. Outline of Year's Course in Botany and Key to the Families of Vascular Plants in the Philippine Islands.
28. The Milkfish or Bañgos. (Supply limited.)
29 Constructive Lessons in English, Designed for Use in Intermediate Grades.
31. School and Home Gardening.
32. Courses in Mechanical and Free-hand Drawing, for Use in Trade and Intermediate Schools.
33. Philippine Hats. (Supply limited.)
34. Lace Making and Embroidery.
35. Housekeeping and Household Arts–A Manual for Work with the Girls in the Elementary Schools of the Philippine Islands. February, 1911.
36. Catalogue and Announcement of the Philippine Normal School. May, 1911. (Edition exhausted.)
37. School Buildings and Grounds. (In hands of printer.)
38. School Buildings—Plans, Specifications and Bills of Materials. (In hands of printer.)
39. A Manual of Free-hand Drawing for Philippine Primary Schools. (In course of preparation.)
40. Athletic Handbook for the Philippine Public Schools.
41. Service Manual of the Bureau of Education.
42. Intermediate English II—Notes, Directions, and Aids to the Preparation of the Correspondence Study Course.
43. Catalogue of the Philippine School of Arts and Trades, 1911–12.

CIVICO-EDUCATIONAL LECTURES:

1. The Rights and Duties of Citizens of the Philippines. (Supply limited.)
2. The Prevention of Diseases. (Supply limited.)
3. Rice. (Supply limited.)
4. Diseases of Animals. (Supply limited.)
5. Coconut Beetles. (Supply limited.)
6. The Housing of the Public Schools. (Supply limited.)
7. Coconuts.

THE TEACHERS' ASSEMBLY HERALD

Volume I, 1908. (Edition exhausted.)
Volume II, 1909. (Edition exhausted.)
Volume III, 1910. (Edition exhausted.)
Volume IV, 1911. (Supply limited.)
Volume V, 1912.

TEXTBOOKS:

Selected Short Poems by Representative American Authors.
Commercial Geography; the Materials of Commerce for the Philippines.
Macaulay's Samuel Johnson; Emerson's Self Reliance; Lincoln's Gettysburg Address.
An Introduction to the Study of Colonial History. (In hands of printer.)

MISCELLANEOUS:

Woodworking, a Manual of Elementary Carpentry for Philippine Public Schools.
Some Recipes for Preparing Jellies, Preserves, Pickles, and Candies from Philippine Fruits. (Supply limited.)
Syllabus of Economic Conditions in the Philippines. (Supply limited.)
A Statement of Organization, Aims, and Conditions of Service in the Bureau of Education.

THE PHILIPPINE CRAFTSMAN:

Volume I. (Now current.)